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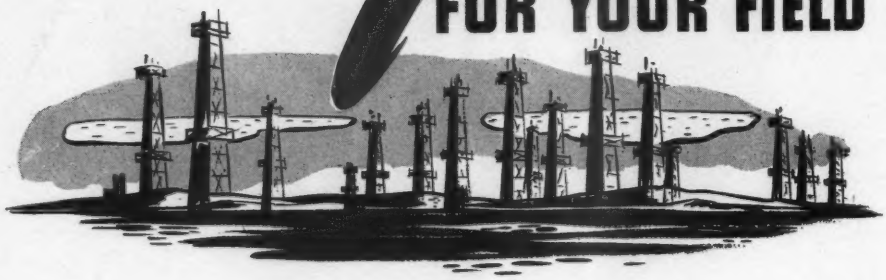

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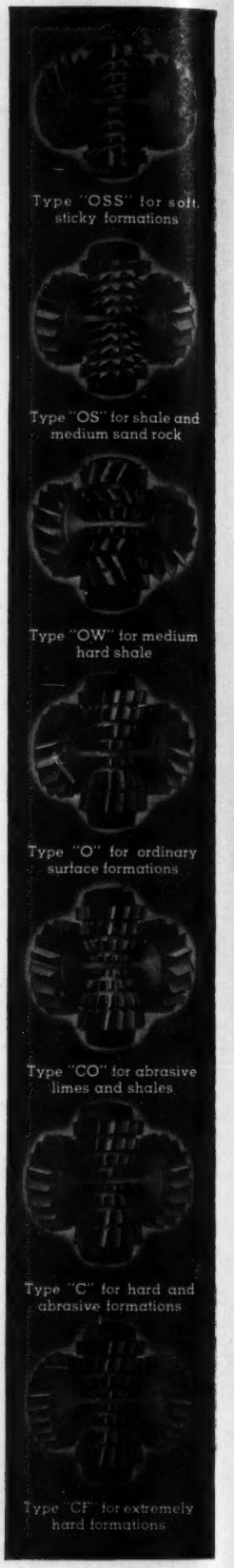
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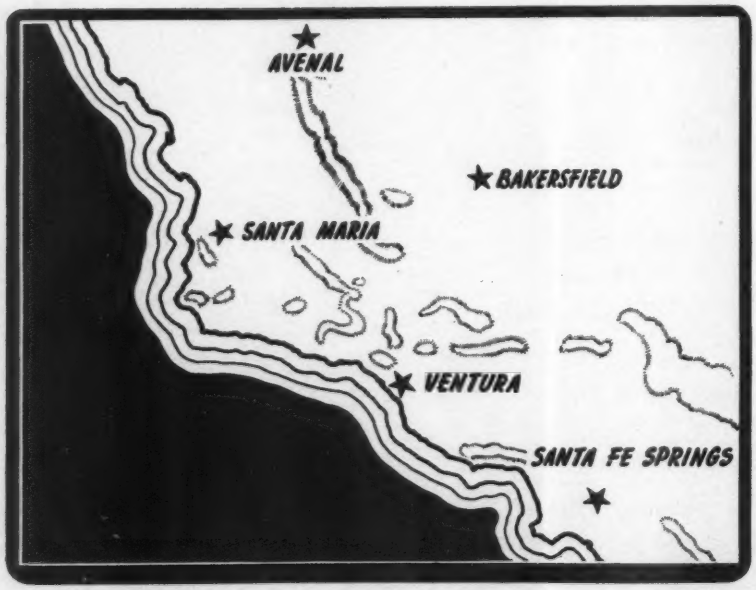

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Procedure for Determining Pool Quotas in California

Eight months' experience in distributing pool quotas within the total state quota established by the Office of Petroleum Coordinator has begun to delineate a pattern which, with probable minor modifications in future months in response to changing conditions, apparently will serve as the basis for the allocation of oil to pools in California by the Production Committee for District No. 5, under the terms of Recommendation No. 19, the basic document approved by Coordinator Ickes for allocation and conservation methods in the state.

An important feature of the present program is the part played by the Federal Government in designating procedure to be followed. Recommendation No. 19 provides that all schedules must be approved by the Chief Counsel of the Office of Petroleum Coordinator; if and when they are approved, they become the recommended pool quotas for each of the pools in the state for the month in question, and the Deputy Coordinator directs that they be put into effect.

Another important feature of the present method is that the crude allocated to the pools be based upon satisfaction of the demand for essential products. This basis, brought about by the war, is entirely new in California. Under the voluntary conservation program as it developed in the state during the years 1929 down to the beginning of 1942, no distinction was made in allocation to pools or wells because of the type of oil they produced. With the outbreak of war, however, there has been a relative decline in demand for gasoline, together with a marked increase in demand for fuel oil. It has therefore been necessary to allocate an increasing share of the total state quota to pools which produce crude high in fuel oil content, while decreasing the allocation to pools whose crude is high in gasoline content, in order to satisfy the demand for fuel oil while preventing a glut of gasoline in storage.

The present method of allocation seems to be approaching a solution of the two problems, those of satisfying both Federal requirements and war demands.

Federal Government requirements have been establishment through the approval of all schedules submitted "with reservations." The reservations have in fact constituted directives to the Production Committee, issued to clarify allocation and conservation principles which the Office of Petroleum Coordinator desired to have established. The reservations have frequently been coupled with statements to the effect that if certain practices were continued, subsequent schedules could not be approved.

This procedure illustrates a fundamental difference in relationship between the California industry and the Federal Government, compared with the relationship between the industry in other major-producing states and the Federal Government.

California has no control law, whereas all other states of significant oil producing stature do have control laws. Other states receive a monthly production quota from the Office of Petroleum Coordinator, with the recommendation that it be followed; the quota is broken down to pools and wells in accordance with the control law in the particular state. California, like other states, receives a total quota, but unlike other states, must develop a method of allocation to the pools, as well as the actual pool quotas themselves, which meet the approval of the Federal Government. Therefore, since approval of pool quotas in California is reserved to the Federal Government, the Government reaches much further into actual production and conservation practices in California than in any other state.

The principles established by the Federal Government through its "reservations" in approvals of the schedules for the individual months from March to September, inclusive, have included instructions to the Production Committee to:

1. Reduce the allocation to light oil fields where the actual production of iso-butane would not thereby be materially affected;
2. Increase the allocation to heavy oil fields;
3. Allocate sufficient oil to fields producing natural gas to satisfy the demand for iso-butane "when considered in connection with the iso-butane obtained from less prolific sources";
4. Reduce the allocation to high gas-oil ratio fields to the extent necessary to eliminate the blow of gas to the air;
5. Increase the number of fields exempt from restriction, "particularly those whose production will assist in satisfying the demand for heavy oil";
6. Give less weight to minimum rates of production as a "matter of inter-field allocation" since such minima "may well lead, in the future, to a lack of balance between the kinds of oil necessary for the prosecution of the war or cause the venting of natural gas to the air";
7. Provide compensating allocations in so far as possible where Conservation Order M-68 has prevented offset drilling;
8. Base restrictions of production on reservoir characteristics of pools as entitles, rather than on individual well capacities; the pool "maximum efficient rate"

not to be the sum of the so-called individual well "maximum efficient rates."

In general, Recommendation No. 19, which has been implemented by these directives as to individual schedules and methods, requires that allocation of oil production in California be made in accordance with recognized engineering principles of production, looking toward the most efficient production of all pools, with the provision that when such methods of production result in a shortage of products needed for the war, or in excessive stocks of products not needed, approved departures may be made.

In developing the September schedule, which can be taken as an example since it is the latest approved and is the closest approach to absolute satisfaction of both governmental and demand requirements yet attained, the Production Committee first exempted cetain pools from restriction of production. For some of these pools, the exemptions were based upon the pool classification as established by the Engineering Subcommittee of the Production Committee, and for others, upon the fuel oil yield.

Pools are divided into six classes: Ia, b, and c, and IIa, b, and c. Pools in the "I" class are those in which capacity production would result in reduction of ultimate recovery, and those in the "II" class are those in which no appreciable damage to the pool would result from unrestricted output. The subdivisions within classes indicate relative availability of production without artificial lifting, as well as progressive stages of depletion, relative average well size, and utilization of present equipment.

The first exemptions, made before application of the fuel oil adjustment, included all Class IIb and c pools. Class IIb pools are those which are generally beyond 50% depleted, but have productive abilities moderately in excess of the economic minimum; Class IIc pools are usually in the extreme stages of depletion, with capacities not materially in excess of the economic minimum necessary to assure the continuity of production and prevent premature abandonment.

These classes of pools have been exempted from restriction for the past several months, but additional pools were exempted in September in order to supply sufficient fuel oil to satisfy requirements. These exemptions, based upon the fuel oil content of the crude, included Class I pools whose crude yields 70% or more fuel oil, in which case the pools were given allotments equal to their capacity to produce. Pools in that category include: Upper Central Area of Elk Hills; the Vedder zone at Mount Poso and Round Mountain; the Vaqueros at Capitan; Lompoc; the Stern zone at East Coyote; the Main Area of Huntington Beach New; the Tar Bolsa and the Upper and Lower Ashton Zones of the Bolsa Area of Huntington Beach Old.

Pools in Class I whose crude yield between 55% and 70% fuel oil were allocated their maximum efficient rates of production, and pools in Class IIa whose crudes yield more than 55% fuel oil were exempt from restriction and given allotments equal to their productive capacities. Class IIa pools whose production yields less than 55% fuel oil were given an unrestricted allotment equal to 50% of their capacities, while the remaining 50% was restricted in the same way as the quotas were determined for the other non-exempt pools.

The exemptions from restriction on production thus determined totaled 433,719 B/D, out of an allocated crude quota of 746,700 B/D. An additional 3,300 B/D was set aside for new completions to be brought on production during September, making the total September quota 750,000 B/D. These exemptions were divided among the different classes of pools as follows:

Class IIb, IIc and IIa, containing more than 70% fuel oil (exempt)	320,807 B/D
Class IIa pools containing between 55% and 70% fuel oil (exempt)	15,165 B/D
Class I pools containing more than 70% fuel oil (exempt)	70,097 B/D
Maximum Efficient Rates of Class I pools, containing between 55% and 70% fuel oil	27,650 B/D
TOTAL	433,719 B/D

This figure, when deducted from the total oil allotment of 746,700 B/D, left a balance of 312,981 B/D to be allotted to the remaining pools. However, the maximum efficient rates of the remaining pools totaled 423,616 B/D, which meant that it was necessary to restrict production from these pools by 110,635 B/D. This reduction was made by the application of a power factor to the maximum efficient rate, modifying the result obtained by a percentage figure to balance precisely.

The basic factor used in setting the primary quota is the maximum efficient rate of production of the pool, determined for all Class I pools by the Engineering Subcommittee of the Production Committee. Further studies are being carried on, with the assistance of the field committees and the Administrator's staff of the Conservation Committee, and revisions of maximum efficient rates are made as more comprehensive data as to individual pools become available.

Important factors used in this calculation include:

1. Size of the reservoir in acre-feet;
2. Volume available to active hydrocarbons;
3. Pressure - volume relationship and amount of gas;
4. Original pressure, subsequent pressure history and indicated trends;
5. Average density of well spacing;

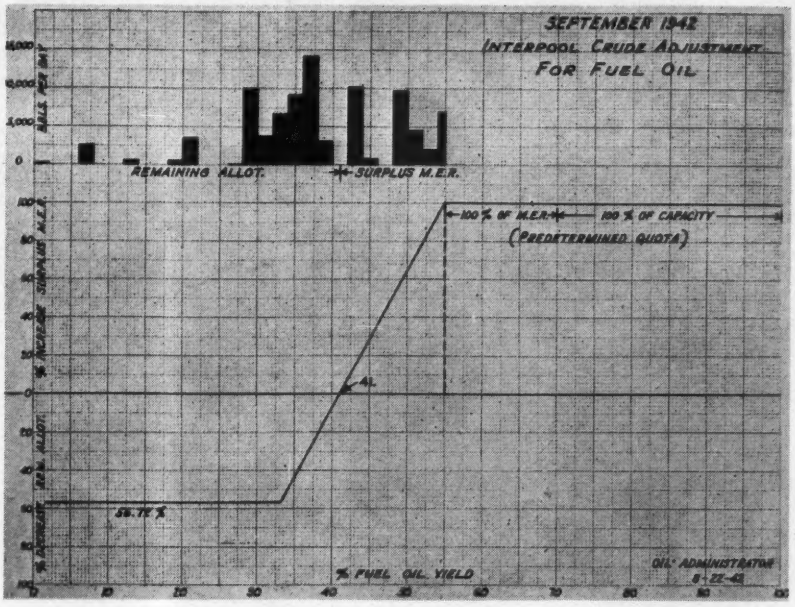
6. Average permeability and variations from the average;
7. Solution gas-oil ratio, subsequent ratio history and indicated trends;
8. Production history and indicated capacity;
9. Well characteristics and productivity indices;
10. The type of control, whether depletion, water drive, or a combination of both;
11. Stage of development and depletion.

There are other factors used when applicable, such as limitations of equipment, volume of gas available for repressuring programs, and the capacity of recycling units.

Maximum efficient rates thus determined are not final and set figures. The Engineering Subcommittee reviews and revises them as more complete and comprehensive data become available, and has adopted a program of review of pool rates at intervals of not greater than six months, with more frequent reviews for critical pools. One matter that has made review and revision essential is the absence of history as to high pool rates of production and the resultant effect on reservoirs, since most Class I pools have been severely restricted since their discovery, and are only now being required to produce at relatively high rates.

Importance of accurate determination of maximum efficient rates is two-fold. First, under the terms of Recommendation No. 19, they represent the top limit on production levels, unless certification is given a higher rate by the Office of Petroleum Coordinator, and second, they constitute the base to which is applied the power factor and subsequent percentage modification to determine the primary quota for the restricted fields.

In September, the fuel oil yield of the unrestricted pools and from the primary quotas established for the restricted pools was found to fall short of requirements, making it necessary to apply an adjustment to the primary quotas of the restricted pools, based on the relative fuel yield of the crude, thereby increasing the available fuel oil.



Certain preliminary adjustments to take care of unique conditions were made before fuel oil modifications were applied to these quotas. Discovery wells were allotted not less than 150 barrels per day for the three months following the month of their completion, under a Production Committee rule to give discovery wells a three-month 150-barrel daily minimum allotment. Allotments to other fields were reduced to the limit of gas outlets, and one reservoir was given an additional allotment to attain the reservoir minimum efficient rate to minimize waste, established in accordance with a recommendation of the Engineering Subcommittee.

A fuel oil adjustment to restricted pools was made. In this adjustment, a straight line curve was drawn from a point that increased allotment to pools yielding 55% fuel oil to their maximum efficient rates, to a point that decreased the allotment to pools yielding 34% fuel oil or less by 56.72%, zero adjustment falling at 41% fuel oil yield. The increases were made by applying the indicated percentage to the difference between the primary quota and the maximum efficient rate; the decreases by applying the percentage to the difference between the primary quota and the minimum rate. The accompanying chart shows the degree of adjustment to restricted pools of varying fuel oil content.

Preparation of the interpool allocation is performed by the Administrative office of the Conservation Committee under direction of the Production Committee. Pertinent data from the various functional committees, as well as the Engineering Subcommittee and the Statistical Committee, are turned over to the Administrator's staff. The data developed by this office each month include:

1. Number of ratable wells in each pool;
2. Capacity production for all unrestricted pools, and the Engineering Subcommittee's report on information augmenting restricted pools;
3. Minimum allotments for restricted pools;
4. New completions, recompletions, and resumptions for all pools for the current month and an estimate for the coming month.

A "Derivation of Pool Crude Quotas" is made by the Administrator's staff after consideration of these and other pertinent factors, including known requirements for crude, gas and petroleum products,

(Continued on Page 18)

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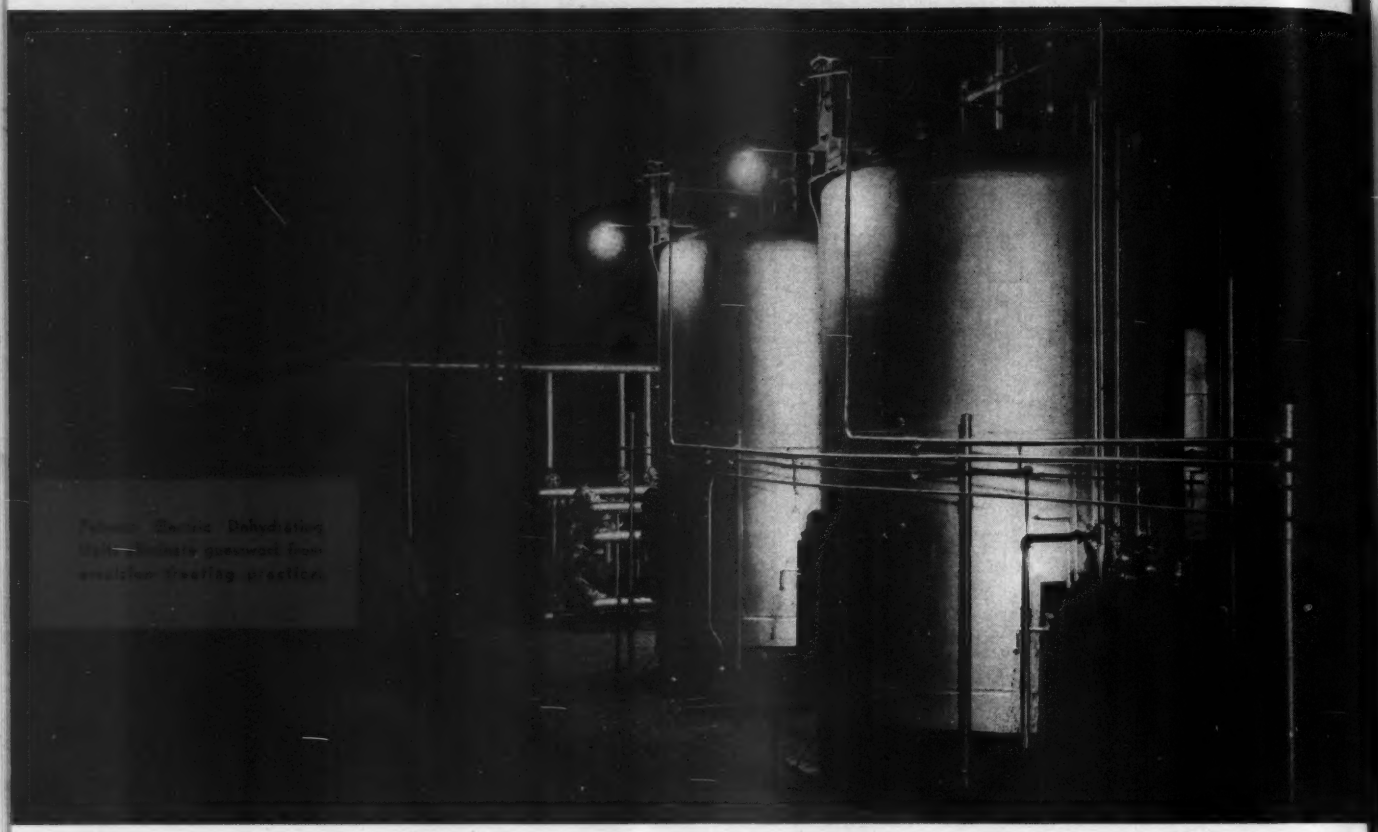

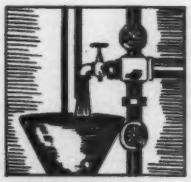

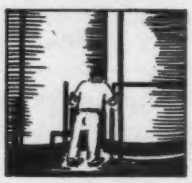

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DEHYDRATING DESALTING

Limestone–Laden Clay Drilling Mud as Acidizing Aid

By J. K. Kennelly
Chemical Engineer

Recent reports by O.P.C. officials indicate the normal rate of drilling in California is insufficient to meet the demands of heavy crude production. Heavy crude being classified as 23.9° and under. Because of M68 and W.P.B. orders, steel can only be allotted to those wells with high oil/steel ratios which means there must be more remedial and redrill work. The present program calls for a rehabilitation of 1439 wells in the heavy oil fields which will account for 32,010 barrels daily. With the August allowable for California being increased 26,800 barrels over the July quota to 767,200 barrels with 726,200 barrels allocated to crude oil, it seems inevitable that M68 will have to be amended to allow for drilling on less than 40 acre spacing. It is estimated that 600 wells could be drilled in the Wilmington field on a 5 acre spacing program.[2] With the demand on heavy crude it is reasonable to expect the bulk of the exceptions for new drilling to be in those fields that can produce this heavy oil. The Wilmington field will play the major role in the Los Angeles Basin and with Elk Hills, Belridge, Midway, and Coalinga carrying the load for the San Joaquin Valley.[3] With sufficient transportation Santa Maria offers the greatest possibilities for the Coastal Area.

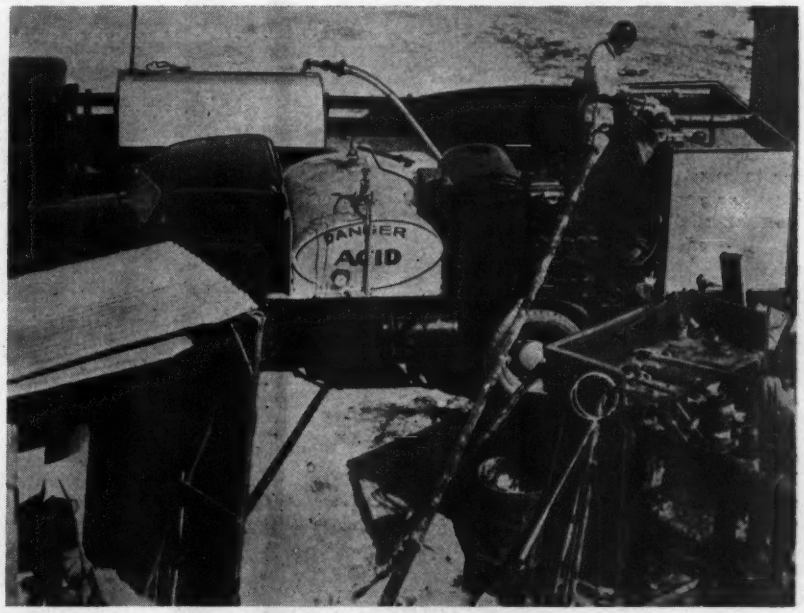
With the bulk of the drilling to be done in fields already exploited, it follows that completions will not be as large nor of as high initial pressure as when the first drilling took place. The operators will be striving to drill and complete their wells in such a manner as to insure maximum recovery. In drilling such low pressure zone wells, the removal of drilling mud on completion becomes a major problem. One of the better accepted methods of mud removal is by the proper application of acid. To enable the acid to readily attack and disintegrate the mud sheath between the liner perforations and the face of the formation, it is a common practice to add powdered limestone to the mud while drilling through the zone to be acid treated.

The idea of adding limestone to a clay mud for the express purpose of acidizing was first advanced in 1934 by H. C. Miller and G. B. Shea,[4] however the use of acid for the removal of clay muds from oil wells to stimulate production was the invention of R. W. Phelps and F. W. Lake in 1924.[5] Their patent stated that while muriatic acid would severely corrode steel casing and tubing, no great amount of corrosion would take place if only the correct amount of acid was used to **just** break down the mud sheath. This was a difficult operation so that the invention was not practiced to any great extent. It is important in the history of acidizing because it was the first patent covering the disintegration by acid of a clay drilling mud. In 1932 J. J. Grebe and R. T. Sanford were issued a patent which disclosed the use of an inhibitor[6] to minimize acid corrosion of steel casing regardless of the amount of acid used or the completeness of the reaction.

Combining the ideas of Lake and Phelps and Grebe and Sanford with those of Copelin,[7] covering an all limestone mud, Miller and Shea[8] investigated the behavior of a limestone laden clay mud sheath in muriatic acid. Their laboratory tests showed that a solution of muriatic acid acting on a limestone-impregnated mud sheath in the annulus between the perforated pipe and the face of the oil sand would effectively disintegrate the mud sheath and expose the face of the sand. The action of the acid on the limestone particles embedded in the mud sheath destroyed the bond between the clayey materials causing a complete disintegration of the sheath. 83½ pound mud was used containing 20 to 30 pounds of limestone per barrel.

Usually acid treatments for the removal of limestone laden mud are made immediately prior to completion of the well. However in the early stages of its use, it was often thought advisable to first complete the well and produce it for a time before acidizing. On subsequent acidizing many of the wells did not respond with an increase in production, and it was felt that the use of acid was an unnecessary procedure. Since then research has shown that the beneficial results might not be attained immediately following acidizing but more likely would be noticeable during the later life of the well, that is to say the ultimate production would be greater irrespective of the results achieved at the time of acidizing.

The usual thick producing zones in California make it unlikely that on completion the entire length of the zone will be freed of the mud cake by the formation pressure. It is the consensus that the finger or strata carrying the highest pressure will be the first zone to produce and that the other fingers can only produce as the pressures decline to equal that of each strata. This decline in pressure may not take place for some time so that the mud cake left on the sand will become very hard and dense. C. P. Bowie[9] states that a mud cake made from Coalinga California clay when immersed in 39.2 A.P.I. crude oil from the Belridge field showed signs of solidifying



Acidizing well for removal of limestone mud.

after 10 days and after being in the oil 22 months, it attained a hardness about equal to that of a brittle shale. When this cake was placed in a test tube of water it would not disperse as would a clay suspension when shaken. The absorption of the water from the clay by the crude oil accounted for the hardness. One can readily visualize the advantages, in the later years of the well, resulting from the complete removal of the mud from the well at the time of completion.

It is well to remember that even in those cases where the mud is mixed with limestone and then acidized, the initial production will continue to come from the strata with the greatest initial pressure. As the pressures decline other sections will be free to produce and may do so unrestricted.

It should not be assumed that mud treated with limestone must be acidized at the time of completion. Successful treatments can readily be made at a later date, however it is easy to see that a complete breakdown of the cake would be more difficult and certainly not as positive due to the likelihood of the acid "running away" to zones already open.

In mixing a limestone mud generally 15 to 20 pounds of finely powdered limestone is added per barrel of mud in the circulating system. A mud containing 15 to 20 percent limestone based on the dry solids in the mud is generally recommended. Table 1 shows the amounts of limestone necessary to raise the limestone content of any mud 1% per barrel of mud. Table 2 gives the average limestone content of some of the native drilling muds used in California. These values will vary from time to time and should not be taken as fixed values. The limestone is added to the mud in much the same manner as other aggregate such as Baroid or Aquagel. The specific gravity of the limestone is slightly greater than that of clay so that agitation of the mud pit each tour is recommended in order to forestall excessive settling of the limestone particles. The addition of this material slightly increases the weight, has little effect on the pH and, if anything, increases the wall building properties. Usually the viscosity will increase but if necessary can be readily corrected by the addition of mud thinning chemicals.

In acidizing a limestone mud a 15% by weight muriatic acid solution is used. This means about a 50-50 mix of commercial muriatic acid and water. An inhibitor is added to the acid to eliminate acid corrosion of the tubing and casing. Other additional agents for the acid are de-emulsifying chemicals and wetting agents. The wetting agents are very important as they impart to the acid greater penetrating power, which is necessary when acidizing mud sheaths which have

Wt./Cu. Ft	68	70	72	74	76	78	80	82	84	86
Spec. Gravity	1.09	1.12	1.16	1.18	1.21	1.25	1.28	1.31	1.34	1.37
% Solids	13.4	17.4	22.5	24.8	28.1	32.5	35.5	38.7	41.1	43.8
# Solids/bbl.	51	68	91	103	120	142	160	178	194	211
# Limestone/bbl for 1% increase	.58	.75	.91	1.1	1.4	1.6	1.8	2.0	2.2	2.4

Table 1. Amounts of Limestone to Add to Clay Muds

Name of Mud	Limestone Content
Owlite	9.32%
Hiko	11.82
Mojave	10.34
Frazier Mt.	5.00
Victor	12.50
Bigger Slough	0.00

Table 2. Limestone Content of Some Native Clay Muds

become coated or impregnated with oil. Often times it is necessary to weight the acid to approximate the weight of the fluid in the hole. A water soluble chemical is added which does not interfere in any way with the reaction of the acid and the mud.

The rapid breakdown of the mud is due of course to the reaction of the acid with the limestone, it being completely soluble in acid. The reaction is as follows:

(1) $2HCl + CaCO_3 \longrightarrow CaCl_2 + H_2CO_3$
(2) $H_2CO_3 \longrightarrow H_2O + CO_2$ (gas)

Reaction (1) takes place when the hydrostatic pressure on the acid exceeds approximately 900 pounds per square inch. After the treatment as the acid is circulated to the surface the pressure becomes less and reaction (2) takes place. The evolution of the carbon dioxide gas (CO_2) often becomes quite violent depending on the volume of limestone dissolved and gives the well the appearance of "blowing in." 100 gallons of 15% acid will dissolve enough limestone to cause 670 cubic feet of carbon dioxide gas to be evolved at atmospheric pressure.

While reaction (2) does not take place under high pressure, reaction (1) readily goes to completion. Reaction (2) is not necessary for mud cake disintegration. The effect of pressure is to slightly decrease the rate of reaction as shown by Fig. 1. [10]

The series of pictures in Fig. 2 taken by F. L. Dieterich U.S.N., show the progressive disintegration of a limestone mud by muriatic acid under 1000# pressure and at 150F. The elapsed time for the complete disintegration of the cake was 20 minutes. No bubbles of carbon dioxide gas were seen indicating the absence of reaction (2) and proving that the actual disintegration of the cake was due to the acid reacting with the mud and not the result of gas agitation such as is encountered at atmospheric pressures.

Theoretically the reaction between acid and limestone can be stopped by pressure. The calculated theoretical amount being approximately 73½ million tons pressure per square inch.[11]

The effect of increased temperatures is

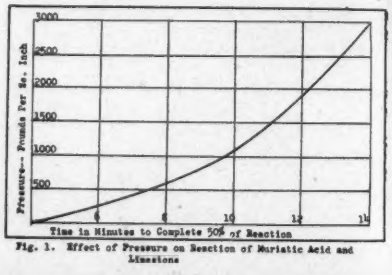


Fig. 1. Effect of Pressure on Reaction of Muriatic Acid and Limestone

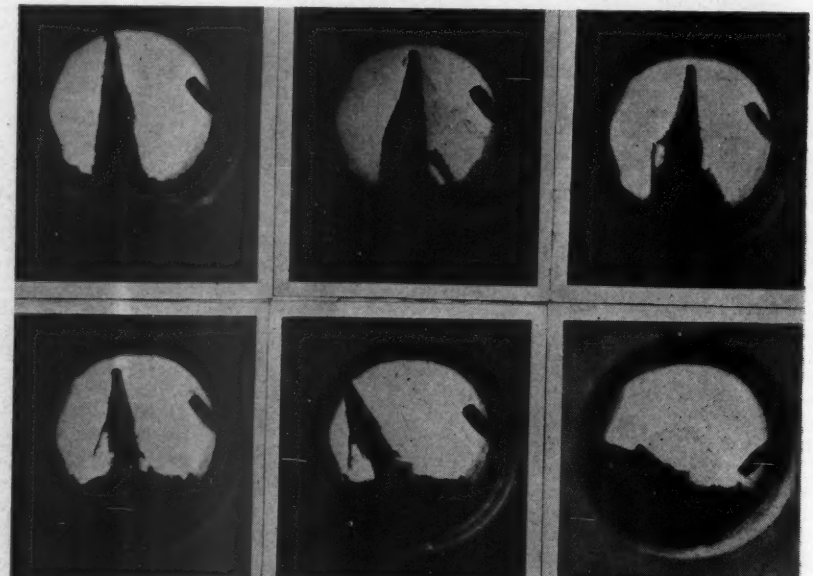
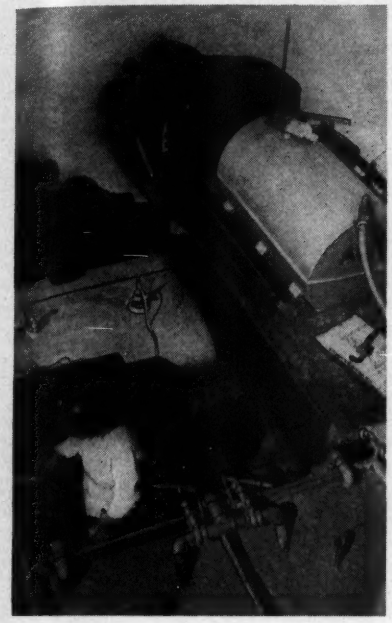


Fig. 2—Disintegration of limestone laden clay mud sheath under 1000-lb. pressure and at 150° F. Total elapsed time 20 minutes.

to increase the rate of reaction. This tends to somewhat offset the decrease due to pressure.

The application of the acid for the removal of limestone mud can be made by one of the following methods:



Using acid to loosen stuck drill pipe.

Pickling: Such a method requires only the spotting of the acid in the liner area and allowing the well to set several hours. This method is not usually recommended as the lack of agitation of the acid creates an inefficient treatment. The acid in contact with the mud will become spent to form a spent acid block preventing further action.

Mechanical Washer: The use of a mechanical washer for proper placement of the acid outside the perforations and for agitation is highly recommended. The acid is pumped down the tubing and out through special ports in the washer.

The area is then washed in one foot increments to insure even distribution of the acid throughout the area.

Rocking: This method of acidizing is especially adapted to the treatment of high pressure wells. The well is under control at all times as the treatment is made through the christmas tree. With the tree in place, the mud is changed to water and the acid pumped down the tubing and displaced with clear water so as to give a back pressure on the tubing. With the acid in place, a by-pass valve on the acid truck is opened to allow the acid to surge back into the tubing displacing water into the truck tanks. This water is then pumped back into the tubing to force the acid out again. This "rocking" of the acid is done for about 4 hours. The rig pumps then circulate the acid out through the tubing and the well completed. The simplicity and rapidity of this type of application justifies its high recommendation. Oil may be used to displace the acid and to circulate so that no fluid other than oil contacts the formation after the acid treatment. The total time for this type of treatment is about 6 or 7 hours.

Acid is often employed to loosen stuck drill pipe and has been quite successful in California despite the fact that all drilling is in sand or shale. The addition of limestone to the mud while drilling greatly facilitates the acid reaction. Many jobs have been done to show that the majority of the successful treatments were on tools stuck on or close to bottom. Pipe stuck up the hole because of keyseating, balled up bit, and pulling into tight hole has not been as susceptible to acid treatment. The usual time required to loosen is 5 to 20 minutes. The acid is left in the hole a maximum of 5 hours in the event the pipe does not come loose. The average of successful treatments is a little less than 50% which is remarkable when it is realized that acid is most generally used only after oil and other means of loosening have proved fruitless.

The use of a limestone laden mud and its subsequent acidization embraces only sound fundamentals of chemistry and physics and should not instill in the operator the sense of "experimenting." The process has been in use for several years and must be considered an accepted method of well completion and one that should prove invaluable in the drilling program now contemplated.

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There may come a time when Uncle Sam will be asking for old diamonds, as well as old aluminum ware. Defense industries use diamonds, the hardest known mineral, and the jewels of the corundum family, for bearings in precision instruments.

in other words

by JOHN CLINTON

As the Hispano-Plymouth and I grow old together, my respect for the old bus increases. I think when at last the war is over and new cars are once more available, I'll keep the H-P and have it stuffed.

* * *

For example, the other day one of the Union Oil engineers told me that if the speed of my engine were not reduced by the transmission and differential the H-Plymouth would travel at something like 240 miles per hour! Wow!

* * *

I never knew before just what the transmission and differential were for. But it turns out that they tame the power generated by your engine and apply it in tablespoonfuls to the wheels. And incidentally they're two vital departments of your car.

* * *

The transmission has something like 54 separate parts whizzing around inside a sealed box. It takes special lubricant that will withstand extreme high pressure to lubricate that stuff. And if you let it go more than 5,000 miles, you're taking chances.

* * *

It's too technical to explain in this space (even if I could do it!), but if you drive without proper lubricant in the T & D, a very unpleasant thing will happen. The transmission will growl at you, and the differential will hum! And once they start, they'll never stop 'til you put in new, *expensive* gears.

* * *

So, start now to have your Union Minute Man check your transmission and differential for you. They'll keep accurate records of when the service is due and notify you to come in. But—don't take chances. All you get is a noisy car!

Left to right on the speakers platform: Otta A. Scholz, representing the Vernon plant; E. S. Dulin, president of Byron Jackson Co., and Richard Billger, representing the Slauson plant.

Army and Navy Production Awards to Byron Jackson Co.

The first presentation of two Army and Navy Production Award Flags to one concern was held in Los Angeles on August 21st when the Byron Jackson Company's Slauson plant and Vernon plant were each awarded the Award Flag.

The two Byron Jackson plants are producing equipment and war materials for both the Army and the Navy. The Oil Tool Division is engaged at this time in supplying oil tools to the United Nations for drilling wells at strategic points throughout the world.

The Pump Division is engaged in the manufacture of pumps for dry docks, and other important needs of the Army and the Navy.

Byron Jackson Company has recently erected another plant which has been designated as a munitions plant engaged exclusively in the manufacture of war materials.

Oil Committees Starts Survey

A new attack on the problem of securing additional fuel oil production in California is being made jointly by the Conservation Committee of California Oil Producers, the Production Committee for District No. 5, and the District No. 5 Office of the Petroleum Coordinator.

These three groups plan to determine the amount of artificial lifting equipment in the hands of the industry and available for installation on heavy oil wells, the data then to be presented to the Office of Petroleum Coordinator in Washington as a basis for amendment of Conservation Order No. M-68, which regulates the use of such equipment.

Information sought is the total number of pumping units now in inventory, the number of installed but idle pumping units which could be transferred to more prolific wells, and the number of make-shift units which could be assembled from material now on hand.

Data as to the number of units which could be transferred is needed as a basis for amendment of the provision of M-68 which prohibits the installation or use of any artificial lifting equipment on a well whose drainage area is less than 10 acres. This provision tends to freeze pumping units to the particular wells on which they were installed on the effective date of M-68, regardless of whether the wells have since become nonproductive, and prohibits their use on other wells which may have since ceased to flow but would produce considerable quantities of crude on the pump.

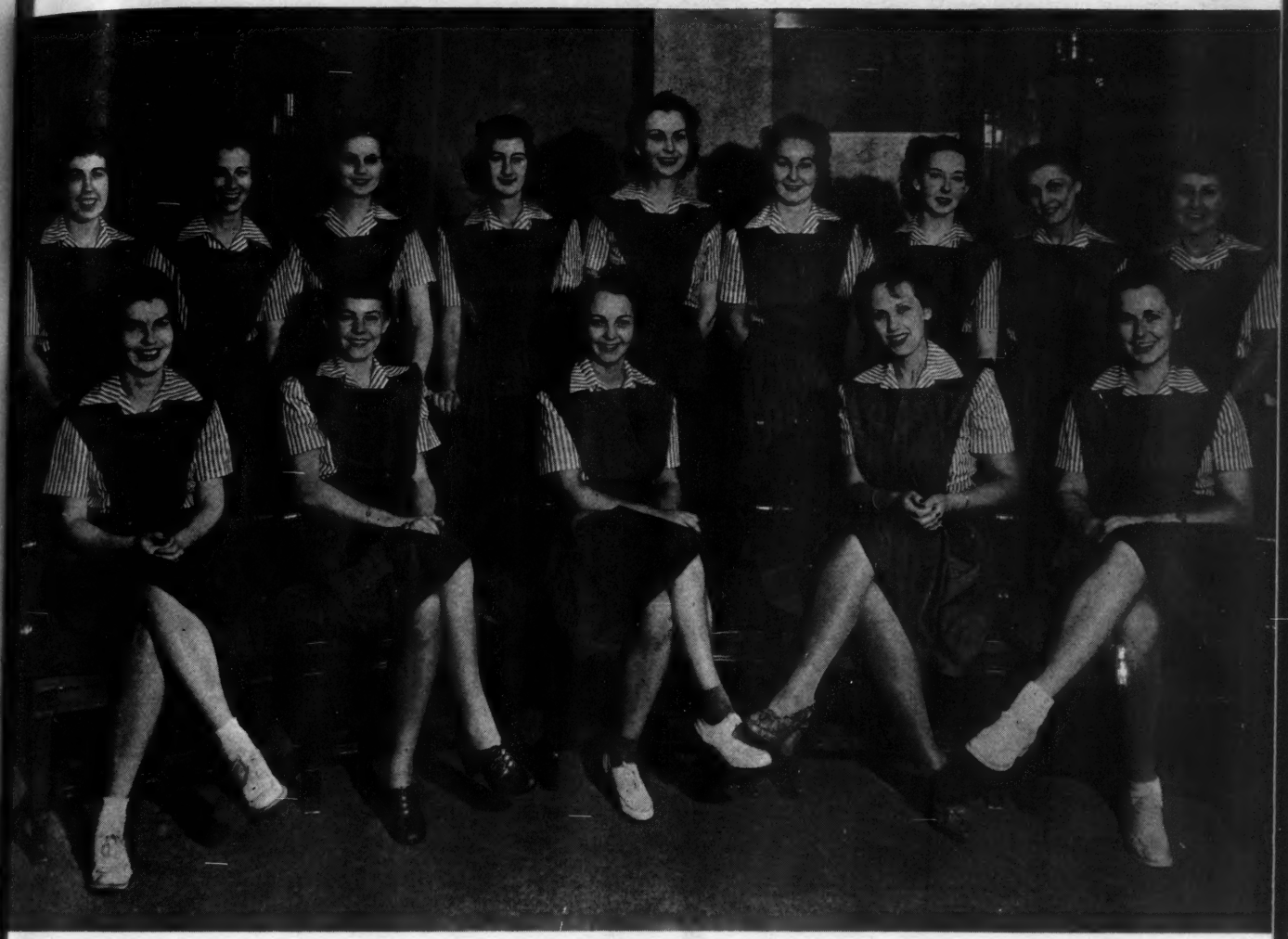
The survey will be carried out by fields through field committees and their chairmen, which make up the Conservation Committee organization, each field committee to determine the amount of equipment in the hands of independent operators, with the major companies reporting directly to the Conservation Committee subcommittee in charge of the program. Data thus secured will be compiled by the District No. 5 Office of the Petroleum Coordinator, and forwarded to Washington for recommendation to the War Production Board.

Operators familiar with the WPB steel allocation policy are convinced that before new steel will be available for manufacture into oil industry equipment, and before restrictions regarding purchase and use of already fabricated material will be relaxed, it will be necessary for the industry to demonstrate that it has used up all its inventories, and is using equipment at the highest practical level of efficiency.

Need for immediate action is indicated by the course of fuel oil storage in California during the first seven months of the year, when the decline was more than 10,000,000 barrels. Current daily withdrawals are approximately 30,000 barrels, and utilization has increased from 281,000 barrels per day during the first six months of 1941 to 342,000 barrels daily during the first six months of 1942, because of the increase in military and war industry use.

Liquefied Petroleum Gas Operators Get Priority Aid

Washington.—In order to permit petroleum producers who are also liquefied petroleum gas operators or users to obtain priority assistance in securing materials for maintenance and repair of liquefied gas equipment, limitation order L-86 has been amended to allow them to make use of the preference ratings extended to the petroleum industry by preference rating order P-98.



Serving as hostesses at the Junior Officers' Club in San Francisco, as well as aiding the American Women's Voluntary Service in providing refreshments for service men on guard duty in San Francisco, are a group of girl employees of Tide Water Associated Oil Company. Standing (left to right) Janet O'Neill, Edna Templeton, Patricia Burke, Laurette Suez, Alice Grace, Gloria Mack, Eileen Harrington, Virginia Rucker, Joy Asher. Seated (left to right) Patricia Martyr, Thelma Schlageter, Jane Robbins, Barbara Pope, Jean Ottesen.

Associated Girls Aiding A W V S

Under the leadership of Joy W. Asher, a group of thirty-three girls of the Tide Water Associated Oil Company's general offices in San Francisco are serving as a volunteer unit of the American Women's Voluntary Service. Learning of the urgent need to provide refreshments to the service men on guard duty in the San Francisco area, the girls began four months ago to devote time to the making of sandwiches. Funds for their activity were provided by donations received from fellow employees.

After this small start it soon was apparent that the need for this service was far greater than existing funds permitted. A group of key executives of the company learned of the need and under a voluntary pledge system now are providing a far larger monthly budget for the expansion of the work of this enthusiastic group of girls.

The Associated girls are now taking over completely one night a month at the night canteen and are also furnishing two girl workers at the canteen each Wednesday night.

The most recent expansion of the activity of the Associated girls has taken them to the Junior Officers' Club, 740 Taylor Street, where they are on duty from 5:30 to 12 in the evening. Dinners are served and throughout the evening the girls serve as hostesses for dancing and other forms of entertainment. Clever uniforms of blue pinafores with red and white blouses have been purchased by the girls for service at the Junior Officers' Club where, during the first month, more than 4000 were served. The Associated AWVS group has to date contributed over 300 hours of voluntary work.

Yesterday's Architects: Today's Piping Draftsmen

By D. W. Darnell,
Chief Engineer,
The Fluor Corporation, Ltd.

One of the principal bottlenecks which occurred during the aircraft industry's vast expansion program was caused by the scarcity of trained aeronautical draftsmen. To relieve that situation, the aviation industry, with government cooperation, initiated a novel plan whereby vocational schools were established at the various airplane plants for the conversion of engineers, both men and women, from other fields into aeronautical draftsmen. So successful was this plan in the results obtained and in operation that it has been adopted by the petroleum industry in the field of refinery and natural gasoline plant engineering and design as a means of bringing quick relief to a serious bottleneck which threatens to develop through the scarcity of piping draftsmen, retarding petroleum plant construction.

The first of these schools was recently established by The Fluor Corporation, Ltd. where the drafting department has undergone a growth from 60 draftsmen, before the war, to a point where the company now employs 225 and has provided facilities for a total of 300 draftsmen. Students from the classes will supplement that number upon completion of the course.

Instructor of the class is Walter Lipman, formerly employed as a piping draftsman by Union Oil Company of California and General Petroleum Corporation and currently employed as a vocational teacher with the Los Angeles County Board of Education in the Montebello, California School District. Mr. Lipman is paid by the Montebello School District which is reimbursed for his salary by the Federal Government as part of its Defense Educational system. The Fluor Corporation, Ltd., in turn, employs and pays each student a wage during his period of instruction.

Students entering the class must meet certain definite requirements as to general education and experience, the minimum being graduation from high school and at least two years' experience in mechanical drafting or a university education with at least two years' experience in engineering. Thus, architectural draftsmen, mechanical draftsmen,

D. W. Darnell

and engineers with mechanical drawing experience from all fields are eligible under the plan.

The course of study is planned to capitalize each student's previous experience and it is built around the fundamentals of refinery and natural gasoline plant piping drafting. Particular emphasis is placed on learning the standard symbols used to represent plant equipment and components. Instruction is conducted through class-room lectures, demonstrations and individual drawing board instruction. In lectures, supplemented by blackboard chalk talks, actual valves are torn down for study of their parts, various fittings of all descriptions—welded, flanged, and screwed — are studied while wooden models of fractionating columns, accumulators, etc., are displayed and examined by the students after talks by the instructor.

To accommodate the students and to provide the necessary facilities, The Fluor Corporation, Ltd. built a special classroom building. Classes are limited to a total of twenty-four students so that thorough personal instruction and supervision of each student is possible, but no definite time is set for the progression of the student from classroom work to The Fluor Corporation's drafting department. Completion of the course is governed by each student's natural demonstration of his ability to absorb learning in the subjects taught. As each student progresses from the classroom into the drafting department, he or she is replaced by a new student whose eligibility has been established and who comes from a substantial waiting list which has grown since the class was established.

One of the features of the plan is the inclusion of women in the classes. They are required to meet the same qualifications as men as to education and previous experience. Initial experience quickly established the fact that women meeting the essential qualifications are available, adaptable and temperamentally well-suited for the work.

The principle of converting professional men and women for work in closely related lines essential to the war effort has proved to be a sound move possessing economic and sociological advantages. With the start of the National Defense Program, before our entry into the war, it became apparent that many professional men and women, employed in fields then rendered non-essential to the war effort, would be thrown out of work creating a serious unemployment problem. On the other hand, industry faced an acute man-power shortage which resulted from withdrawal of men from industry for military service. This plan has done much to prevent such an unemployment problem and, at the same time, it has served industry by providing relief from the threatened man-power shortage

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Engineering, Technology, latest news—twice a month in California Oil World.

Maintenance Hints for Two-Cycle Gas Engine Driven Compressors

In conveniently arranged form, Clark Bros. Co., Inc., Olean, New York, manufacturers of engines and compressors, have just published a booklet entitled, "Maintenance Hints for Clark 'Angle' Super Two Cycle Gas Engine Driven Compressors."

Briefly, it considers—

1. The **proper maintenance** of the Clark unit and **when** it should be done.
2. The **troubles** which operators sometimes encounter and the **methods to solve** them.

Also there is a section comprised of 23 Do's and Don'ts which every plant engineer and maintenance man should know in order to reduce maintenance and repair costs.

This timely booklet contains no advertising and is available upon request.

Tubular Products, Inc. Changes Name

United States Steel Corporation recently announced that the name of its new subsidiary, Tubular Products, Inc., has been changed to Tubular Alloy Steel Corporation.

Tubular Products, Inc. early this year acquired the existing plant of National Tube Company in the Chicago District at Gary, Indiana, for the purpose of producing seamless tubing of alloy and stainless steel essential to the war effort. Benjamin F. Harris, President of National Tube Company, is President of Tubular Alloy Steel Corporation. E. N. Sanders is Vice-president, with headquarters at Gary.

The principal products of the new company will be alloy and stainless tubing for the Army, Navy, and Maritime Commission requirements, including tubing for aircraft structures, motor parts, bearings, tank tractor tubing, oil refinery tubing, and many other applications.

It is felt that the new name will more truly reflect the emphasis which will be given to the production of tubular alloy steel products.

Industry Objects to Equipment Control Plan

Objections to the so-called "Huff" plan for equipment inventory and redistribution of oil equipment are based on the complexity of the plan, according to reports from the East. The inventory plan recently presented to the industry required the listing of hundreds of small items —everything valued at $10 and up. A subcommittee of Kansas and Oklahoma oil men has drawn up a substitute plan which is now before the full committee. In the original plan a great number of items were required to be listed, showing the dollar value and the tonnage or weight, with figures down to two points beyond the decimal. The various items in the classification index are further broken down into kinds and types. Refinery men point out that the Office of Petroleum Coordinator had recently combed that branch of the industry for equipment to be used in the manufacture of isobutylenes for synthetic rubber, and ask that no requirements for an inventory be imposed upon them that would in any way delay the use of all refinery materials for this purpose, for at least a period of six months.

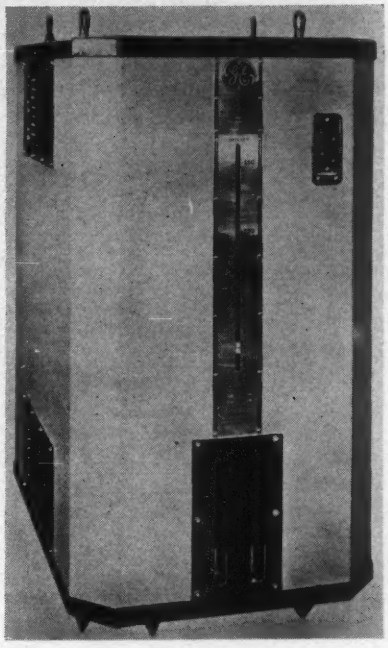
New G-E Welding Transformers For Unionmelt Welding

A new line of heavy-duty alternating-current welding transformers especially designed for Unionmelt welding has been announced by the General Electric Company. The welders are available in 750- and 1000-ampere sizes (NEMA) for 220-, 440-, and 550-volt power.

Features of the line are built-in capacitors and built-in primary control. The capacitors are valuable for improving voltage regulation of the power feeders, thus aiding uniform welding. The built-in primary control not only simplifies wiring, but is advantageous in portable installations because of its compactness. It includes a disconnecting switch and auxiliary transformer to furnish power for operation of Unionmelt auxiliaries.

Motor-operated, remote adjustment of the welding current permits an operator to make current adjustments without leaving the work. The equipment's integral reactance design permits full output to be obtained without the use of high or multiple open-circuit taps.

Fan cooling conserves vital materials and space. Ample ventilation and the arrangement of ducts permits two welders to be mounted side by side without the need for extra space between them for ventilating air.



G-E arc-welding transformer, model 6WK301, 60 cycles, 1000 amperes, 440/550 to 80 volts. Secondary-side view.

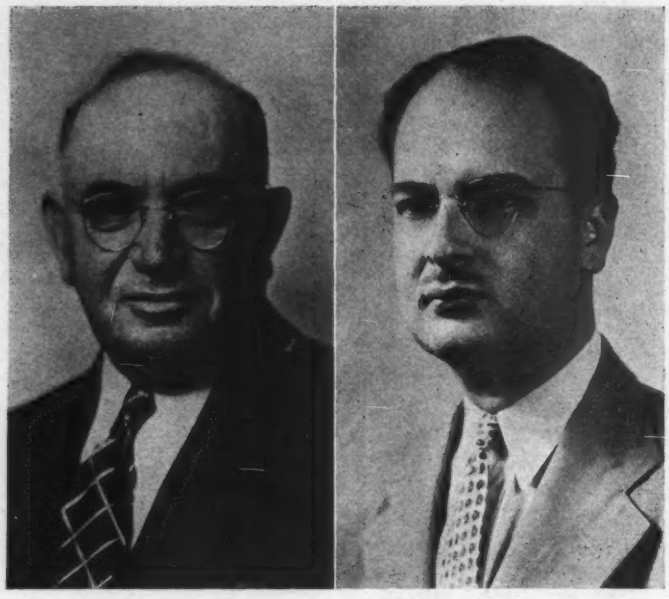
The current output of each welding transformer is indicated by a large, accurately calibrated scale on the front of the case. Inorganic (Class B) insulation is used throughout.

Army Asks for Secondhand Tanks

The Army Air Corps needs secondhand tanks suitable for use in bulk storage of aviation gasoline and lubricating oil, according to a request for a list of such tanks by the Engineer Corps at San Francisco, forwarded to Oil Producers Agency of California.

The letter, signed by Lt. Col. A. H. Griffin, says: "This office would appreciate receiving a list of suitable secondhand tanks available for purchase by the Government for use in storing aviation gasoline and lubricating oil at Air Corps Stations."

The district office of the United States Engineer is located at 74 New Montgomery Street, San Francisco.



I. H. Grancell

Sherman Grancell

I. H. Grancell In New Quarters

I. H. Grancell, manufacturer of joint sealing compounds, moved into a new factory at 1601 East Nadeau Street, Los Angeles, California on Sept. 1. Floor space of the new plant is four times greater which, with additional manufacturing equipment and increased personnel, considerably increases the firm's capacity.

I. H. Grancell has been a leading figure in the oil industry for many years. He came from the East as a young man and since about 1915 has conducted his own business manufacturing various lead products. Associated with him have been two sons, Alvin, now in the U.S. Army, and Sherman, now General Manager of the company.

The main products of the firm are 'Bestolife Lead Seal Joint Sealing Compounds used in the oil and refining industries to prevent galling of tool joints, drill collars and subs, lengthen life of threads, increase packing life and prevent scoring; to assure tightest joints, yet quick and easy separation of parts; to prevent galling of pipe threads, etc. Another product, 'Bestolife Lead Seal "Oxygen Grade" Compound, is manufactured for use on oxygen tank fittings and instruments.

Expansion of the producing capacity of the firm was made necessary due to contracts for these products with the U. S. Navy, Naval Air Force, oil refineries, industrial plants and shipbuilding firms. A modern laboratory is being constructed at the new plant, and the Grancell organization offers the facilities of this laboratory and its personnel to the oil and refining industries for joint sealing and lubrication problems.

O.P.C. Announces Special Appoinment

Appointment of Joseph A. Fanelli, of New York City, as special assistant to Deputy Coordinator Ralph K. Davies was announced today by the Office of Petroleum Cordinator for War.

Mr. Fanelli resigned his post as chairman of the Board of Immigration Appeals, Department of Justice, to join OPC.

Born in New York City, Mr. Fanelli attended grammar and high schools there. He was graduated from Dartmouth College with an A.B. degree in 1932. An honor student, he was inducted into Phi Beta Kappa scholastic fraternity, received honors in English, and was recipient of the Woodbury Prize.

He also was graduated with honors from Harvard Law School in 1935 after having been an editor of the Harvard Law Review.

In 1935, Mr. Fanelli for a short time was consulting attorney with the Tennessee Valley Authority. In September 1935 he joined the Securities and Exchange Commission as an attorney.

To Convert Refineries to War Jobs

Launching of a nation-wide program for the conversion of existing oil refinery equipment from the making of peacetime products to the large scale manufacture of war products has been announced by Deputy Petroleum Coordinator Ralph K. Davies. The program has been made possible as the result of comprehensive studies by the Office of Petroleum Coordinator and the oil industry which resulted in the discovery of operating techniques by which idle or partially unused equipment could be adapted to the production of such war materials as 100-octane aviation gasoline, toluene, and raw materials for synthetic rubber. In announcing the start of this undertaking, Davies said: "Three highly important advantages will be gained by these conversions: First, we shall be able to obtain—quickly—a very considerable increase in our production of materials necessary to the successful prosecution of the war; second, we shall do it almost entirely with equipment which is already manufactured, thus reducing to a negligible degree the amount of new critical materials that will be required; third, we shall make it possible for a considerable number of small operators to get into the war production program. In keeping with the well-established policy of this office, we shall expect each participant in the program to make his own selection of the processes he proposes to use."

The plan will apply to refineries, cracking plants, natural gasoline plants, and any other petroleum product manufacturing equipment that can be used. The Office of Petroleum Coordinator will give informal advice which may be of help in completing proposals and will be glad to receive advance information as to the proposals in course of preparation. OPC will not reach a decision on any specific proposal until it is complete. Assistant Deputy Coordinator Bruce K. Brown will direct the conversion program.

McCullough Tool New Headquarters

A spacious new shop and office building now houses the Los Angeles headquarters of the McCullough Tool Co. Located at 5820 South Alameda St., at Slauson Avenue, the new plant is adjoined by a large parking yard and service area.

The building is 60 feet by 200 feet, of reinforced concrete construction, with offices at the front and the machine shop occupying the rear. The engineering department and laboratory are situated on a mezzanine floor above the offies.

Both the shop and offices are air-conditioned and provided with fluorescent lighting. Large windows are in all walls, and a newly developed type of roof structure provides excellent overhead lighting during the day.

OPA Sets New Ceiling on West Coast Asphalt

New ceiling prices for paving asphalt, cut-back asphalt, and road oils at refineries in California and for ocean terminals in Washington and Oregon were set on August 14 by Amendment 29 to Price Schedule 88. The Office of Price Administration said the ceiling price now shall be the posted prices betwee October 1 and 15, 1941, instead of delivery prices from July 1 to October 15, 1941, which previously served as the ceiling. OPA said it restored a customary differential by setting prices for refineries in the Santa Maria alley at $2 a ton below those for the same products in the San Francsco Bay area.

Engineering, Technology, latest news—twice a month in California Oil World.

Patent Agreement To Aid War Effort

The Office of Petroleum Coordinator for War Harold L. Ickes has authorized seven companies, in or affiliated with the petroleum industry, to negotiate cross-license and licensing agreements so that the entire oil industry may have available certain efficient methods for producing aviation gasoline, toluene, and other war products with a minimum use of critical materials.

The authorization was granted in a formal recommendation (No. 41 of the Coordinator) signed by Petroleum Coordinator Harold L. Ickes.

Under the terms of the recommendation, the seven companies are authorized to act jointly in developing processes that will further the production of essential war products.

In making their patented processes available to the entire oil industry, the companies agree to reduce royalty rates materially whenever the processes are used to produce war products.

The recommendation is addressed to the Shell Development Company, Standard Catalytic Company, Standard Oil Development Company, Texaco Development Corporation, Standard Oil Company (Indiana), Universal Oil Products Company, The M. W. Kellogg Company, and their respective affiliated companies.

Cross-license, licensing agreements, royalty rates, and other agreements, cannot become operative until they have been specifically approved by the Office of Petroleum Coordinator for War and certified by the War Production Board.

The recommendation does not affect the provisions of the consent decree entered in the case of the United States versus Standard Oil Company (New Jersey).

Oil Shipped in Synthetic Rubber Cells

An ordinary freight car carrying a load of oil in big synthetic rubber cells has reached Washington, D.C. from Indiana. The experiment was tried as a possible future answer to the oil shortage on the Eastern Seaboard. The car, which has a capacity of 13,500 gallons in six cells, arrived with two cells filled, carrying 4,500 gallons. The cells of synthetic rubber were developed by an aircraft manufacturer as part of its research into more efficient gasoline tanks for planes.

"The consumer, in the last analysis, determines profits, wages, even the continuance of any industry."

—Howard Coonley

Fountain pens and automatic pencils used up 2,800 tons of steel last year, enough for 430,000 shells for 75 mm. field guns.

A Milwaukee pastor who was an active pacifist until the U. S. was attacked now has an assembly line job in a war plant in addition to his pulpit duties.

Procedure for Determining Pool Quotas in California

(Continued from Page 7)

and limitations in transportation, refining, or gas outlets. This report is reviewed in detail by the Production Committee, and careful consideration is given each phase of the allocation by consultation with a representative of each of the functional committees concerned.

Data as to fuel oil yields of crudes from the various fields of the state are furnished by the Refining Committee for the district; transportation conditions affecting crude production are reported by the Transportation Committee; the Natural Gas and Natural Gasoline Committee relays information as to outlet for natural gas. The latter is particularly important at this time, since the Office of Petroleum Coordinator has been increasingly insistent that no gas shall be blown to the air in view of prospective demand for domestic and war industry consumers during the coming winter.

In breaking the total allotment to the state into demand for particular types of products and then relating those products to production from different pools so that the type of crude produced most nearly approaches the ideal raw material, the Production Committee is advised by the Statistical Committee of the General Committee for the district. This committee develops information as to demand by types of product and the Production Committee is guided thereby in determining allocations to pools which will most nearly produce the type of oil needed, using the yield figures for the different pools as computed by the Refining Committee.

In view of the demand for fuel oil, the schedules developed during the eight-month operation of the program have increasingly liberalized allocations to pools which produce heavy crude high in fuel oil content, while reducing the relative allocations to light oil pools. The September schedule is the first which shows an estimated balance of supply of fuel oil with requirements for the product. It is estimated that motor fuel and gas and diesel oil will be added to storage somewhat during the month, and that certain other products will be withdrawn from storage, but the products for which war demand is most important will be in balance for the first time. There are, however, limitations as to future results along this line.

In view of prospective high winter demand, the Office of Petroleum Coordinator has insisted that no natural gas be blown to the air, thereby definitely limiting the allocation to certain heavy oil fields, Wilmington and Santa Maria Valley in particular. These fields, which produce the type of oil most in demand, are now producing to the limit of their respective gas facilities and outlets, which establishes a ceiling for their oil production. This ceiling applies even though the fields could produce efficiently at higher rates. Elimination of this bottleneck would, in part, relieve the fuel oil shortage which has made it necessary to produce other fields at rates greater than their maximum efficient rates.

Oil Man Appointed Army Specialist

The White House announced today that the Senate had received from the President the nomination of Wiliam Livingstone Muncy (Ventura County, California) for assignment as Director, Petroleum Section, Transportation Service, Services of Supply. Mr. Muncy will have the rank of Lieutenant Colonel.

Mr. Muncy was born in Lenox, Iowa. He has been connected with the petroleum industry since 1906, serving as an executive with the Standard Oil Company of California. Since 1940 he has had complete charge of the sales personnel of that company.

The glycerine produced as a byproduct in making ten pounds of soap is the amount required for manufacturing six pounds of dynamite.

Add New California Fields to Cost Survey

The United States Tariff Commission, at the request of the Office of Price Administration, mailed to oil producers in California a request for current information on production costs for all heavy crude produced in this state, covering the period from October 1941 to July 1942, and specified certain fields on which data was to be furnished. The Tariff Commission has asked that the Oil Associations advise California operators that since the mailing of the original request, it has been found advisable to include additional heavy crude oil fields. Producers are requested to submit production cost data, not later than September 22, 1942, to the U. S. Tariff Commission, on forms provided for this purpose, covering production in the fields listed below. This list is intended to supplement and not to replace any fields specified in the letter of request already mailed. Following are the additional fields on which production data is required:

1. Santa Maria Valley
2. Coastal Region:
   Casmalia, Cat Canyon, Los Flores Area, Gato Ridge, Lompoc, and Orcutt
3. Brea-Olinda
4. Huntington Beach
5. Inglewood
6. Richfield
7. Torrance-Hermosa
8. Wilmington
9. East and West Coalinga
10. Coffee Canyon—Round Mountain
11. Edison
12. Elk Hills
13. Fruitvale
14. Kern River
15. Kern Front
16. Lost Hills (Inc. Williamson)
17. McKittrick
18. Midway Sunset
19. Mount Poso
20. Poso Creek
21. Montebello
22. Belridge—North and South
23. Santa Fe Springs

Field Development

Los Angeles Basin

Shell Oil Works At Yorba Linda

Shell Oil Co., Inc., is continuing heavy oil development at the north flank of the Yorba Linda area of Orange county. Latest to the tanks was Corehole No. F under the name Olinda Fee 4 No. 25-16. Drilled to 2312 ft. in February 1938 the well initialled 1300 bbls. of 22.2 gravity clean oil on a three-hour potential flow and was shut in pending greater demand for heavy oil. Opened to production on August 31st the well made 314 bbls. of 20.4 gravity oil, cutting only 0.2% through a 16/64 in. bean.

A company grass root job in the field, No. 77-16, is pumping 138 bbls. of clean 18.3 gravity oil a day from 2040 ft., while No. 55-16 is prospecting ahead at 2738 ft. without having encountered the oil sands.

Considering the area promising for continued good heavy oil completions the company plans to keep one string of tools continuously working for an indeterminate period.

Havenstrite Testing Deep Del Valle Zone

R. E. Havenstrite, Operator, discoverer of the Del Valle field, bottomed Barnes No. 2 on sec. 16, 4n-17w in the easterly pool, in a yet unidentified oil zone at 7975 ft. Entered at 7934 ft. after having already drilled through the normal sands, the zone is gassy oil sand streaked with shale. The operator is going in to make open hole tests of the horizon before running casing on the project.

In the westerly pool Ohio Oil Co. spudded Vasquez No. 4 and is drilling near 600 ft. while Standard Oil Co.'s Sepulveda No. 4 is under way at 400 ft.

Caloga Oil Starts Canoga Park Well

With John Abrams in charge of operations, the Caloga Oil Co. is preparing to start a wildcat 725 ft. north and 350 ft west of the center lines of Stag and Woodlake Streets in the Canoga Park area, south of the Chatsworth Reservoir.

Inglewood Well Makes Good Test

Tide Water Assoc. Oil Co.'s Vickers No. 73 in the Inglewood field made a good showing on a water shut off test of 7 in. casing cemented at 8100 ft. Cleaned out to 8105 ft. and with a 910 ft. water cushion, a 48 minute test recovered gas in 4 minutes, fluid in 9 minutes and flowed 35 gravity clean oil at an estimated 1000 bbl. rate while making approximately 1,500,000 cu. ft. of gas. Cleaned out to 8401 ft., liner and tubing are being run to complete.

LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
Castaic	The Texas Co., Towle	1	3,4-17	5276	Drilling
	Young, Roy W., Inc., Walker	1	11, 5-16	9981	Idle
Del Valle	Union Oil Co. N. L. & F.	1	20-4-17		Bldg. Rig
Las Llajas	West'n. Gulf O. Co., Brady	1	13-3-17	1284	Drilling
Newhall	James C. Brazell, Trustee, Perkins	1	11,3-16	4473	Idle
Puente	Shell Oil Co. Inc., Garnier	1	33,1-10		Rigging up
Puente Hills	Commonwealth Oil Co., Roland	1	14-2-10	960	Drilling
	Melvin Hansen, Dragna	1	24,2-10	2461	Drilling
Rio Hondo	Potrero Oil Co., Newman	1	32, 1-11	5430	Idle
San Fernando	Fernando Oils, Ltd., Chatsworth	1	18, 2-16		Rig
	Tide Water Assoc., Sesnon	1	28, 3-16	8912	Redrilling
Whittier-La Habra	Los Nietos Valley Oil Co., Woodward	1	29,2-11	2624	Idle
	Orange County				
Bolsa Chica	La Bolsa Ro. Synd., Crane	1	22, 5-11	7310	Idle
Kraemer	Hamilton & Sherman, Kramer	3-2	31,3-9	5185	Abandoned
Costa Mesa	Thompson, Milton N., Banning	1	9, 6-10	5649	Idle
Yorba Linda	Shell Oil Co., Olinda Fee No. 4.	55-16	16,3-9	2738	Drilling
	Shell Oil Co., Olinda Fee No. 4	77-16	13-3-17	2040	Completed
	Riverside County				
San Jacinto	Wonder Oil Co., Stroh	1	30,4-1		Bldg. Rig
	San Bernardino County				
Carbon Canyon	Stella, E. F., McDermott	2	5,3-8	391	Drilling
	Union Oil Co., Newman Bros.	1	2,3-8	4868	Abandoned

Huntington Beach Work Increases

Work in the Huntington Beach field is increasing in response to the demand for heavy oil. In the town-lot area Wm. B. Commozi is putting Miller No. 2 on the pump while Fowler Drilling Co. is rigging up W.K. No. 3 and Devonshire Oil Co. is rigging up to redrill well No. 1. In the westerly section F. L. Thomas is rigging up to redrill the old Union Oil Co. Copeland No. 6. At the west flank Signal Oil & Gas Co. completed Signal-Bolsa No. 42 and is drilling No. 25 at 3380 ft. Standard Oil Co. completed its semi-wildcat, Huntington No. A-37, pumping 218 bbls. of 20 gravity clean oil at effective depth of 3610 ft. and is drilling No. A-38 at 2635 ft. In the Five Points area D. D. Dunlap Oil Co. is preparing to start a grass roots job while Wm. B. Commozi will redrill the W. T. Ball Harper No. 1. In the Tideland area several perforating jobs to the Jones sand are under debate while Southwest Exploration Co. is readying a grass root program.

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Oak Canyon Well Ready to Finish

Western Gulf Oil Co. is cleaning out to test Gilmour-U. S. No. 2 on sec. 32, 5n-17w in the Oak Canyon field. Bottomed at 7112 ft. in gray sand and shale entered at 7110 ft., the project cored oil sand in the interval 7025-7110 ft. and cemented casing for trial.

Redondo Work Ready to Start

Redondo field exceptions have been granted for considerable work near Victor and Huntington Streets. First to get under way will be J. E. Pettijohn who is planning to start the first of an eleven well program at once. Also ready to work is Royal Petroleum Co. which plans three projects. In addition Wood-Callahan is expected to do some remedial work in the area.

Two Work At Puente Hills

Commonwealth Oil Co.'s Billy Rowland No. 1, sec. 14, 2s-10w, is drilling in brown shale showing streaks of gray sand at 960 ft., while the other operator in the area, Melvin Hansen, is drilling his Dragna No. 1, sec. 24, 2s-10w, in gray sand and shale at 2461 ft.

In the north Puente area Shell Oil Co., Inc., is rigging up its wildcat Garnier No. 1 on sec. 33, 1s-10w.

Grass Root Jobs For Montebello

Standard Oil Co. is preparing to drill Baldwin No.'s 91 and 92 in the Montebello field as grass root jobs and is planning a remedial program leading to the rehabilitation of many old Montebello field pumpers. It is understood that the necessary permits have been issued for pumping equipment acquisition.

Santa Fe Springs Gets Two Workovers

In the Santa Fe Springs field two wells are to be worked over and recompleted. Currently rigging up portable equipment Beaver Oil Co. is preparing to gun perforate and pump the old Gen. Pet. Corp. E.G.B. No. 101-C while California Pacific Oil Co. will recondition Pettifils No. 1.

Union Oil Starts Del Valle Wildcat

Immediately south of the Del Valle field and due west of the Newhall-Potrero field, Union Oil Co. is rigging up to drill an exploratory well on sec. 20, 4n-17w in search of additional production on lands of the Newhall Land and Farming Company. It is understood that failing to find Modelo sands comparable to those produced in the adjacent fields the well will be carried to greater depth for an exhaustive test of the area.

Texaco Plans New Buena Park Well

With Buena Park 4-E No. 1 finished pumping 315 bbls. of 23.0 gravity oil, cutting 12% from the 9300 ft. level, The Texas Co. is preparing to start a fourth well, to be located between this test and the discovery Spencer No. 1. Production in these two wells has been less than hoped for but is considered indicative of the production which may be found on better located sites.

(Continued on Page 28)

San Joaquin Valley

Two Drilling at Jacalitos Hills

Two operators are working in the Jacalitos Hills area, south of the Coalinga fields of Fresno county. Near the south quarter corner of sec. 26, 21s-15e, at the southerly flank of Jacalitos Hills field production, Wilshire Annex Oil Co.'s well No. 58-26E indicated an extension by flowing a substantial amount of 39 gravity oil on water shut off tests of 5½ in. casing cemented at 4349 ft. Bottomed at 4415 ft. the well is expected to equal the average 150 bbl. production which is obtained from the thin Temblor sands in the proved section of the field.

A little more than three miles to the southeast, near the south quarter corner of sec. 32, 21s-16e, The Texas Co.'s wildcat, Ferguson No. 1, is drilling at 6031 ft. in search of an accumulation on another portion of the hills.

Gen. Pet. Corp. Seeks Wheatville Oil Field

Located on a northwest-southeast trend on a line with the Helm, Truman and Riverdale fields, General Petroleum Corp. is rigging up to drill Noble No. 88-9 in the southeast corner of sec. 9, 17s-18e. The try seeks another of the Fresno county discoveries which have made history of late. The current effort lies one mile due east of the town of Wheatville.

Standard Oil Quits Kern Front Deep Try

Standard Oil Co.'s exploratory well No. 42-9, near the north quarter corner of sec. 9, 28s-27e in the Kern Front Premier area is abandoned at 6211 ft. Bottomed in basement rocks found at 6195 ft. the well was plugged to 2631 ft. for a trial of Chanac sands cored on the way down. With casing and liner in place the test bailed wet and was replugged only to bail dry without oil discovery. The Vedder was found barren at the 5360 ft. level.

Standard Completes Good Greeley Well

Standard Oil Co. demonstrated that the flush production of the Greeley field is far from depleted by completing KCL No. 11-34 on sec. 18, 29s-26e flowing 3340 bbl. daily rate from 11,510 ft. The 35.2 gravity flow was effected through a 40/64 in. bean under 890 lbs. tubing pressure and 1340 lbs. on the casing. Top of the Vedder in this hole was 11,383 ft., while the Rio Bravo was entered at 11,350 ft. On section 7 of the township the company is preparing to complete KCL No. 12-17 at 11,510 ft. after landing a 5½ in. combination string on bottom and cementing through perforations at 11,237 ft.

Paloma Outpost Coring Deeper

General Petroleum Corp.'s Gallagher No. 61-33, at the northerly flank of the Paloma field in the northeast quarter of sec. 33,31s-26e, is coring ahead from 10,947 ft. after a formation test from 10,850 ft. proved unsatisfactory. Results of the test are not presently available, but field reports indicate that little oil was recovered from the streaks of oil sand encountered in the trial zone. The well aready runs much lower than the currently producing section of the field where the Stevens section of the Miocene is produced at depths ranging from 10,140 to 10,722 ft.

SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
	Fresno County				
Guijarral Hills	Lytle, Robt. S., Opr., Well	68-28F	28,20-16	11,586	Suspended
	Standard Oil Co., Well	82-29F	29-20-16	5151	Drilling
Helm	Amerada Pet. Corp., Hatch	F-41-2	2,17-17	6107	Drilling
Jacalitos	Wilshire Annex Oil Co.	58-26E	26,21-13	4415	Drilling
	The Texas Co., Ferguson	1	32,21-16	6031	Drilling
Kerman	Richfield Oil Corp., Burns	1	30-13-17	3272	Drilling
Mendota	Pure Oil Co., C.L.G.	1	22,15-13	7000	Abandoned
Raisin City	Shell Oil Co., Inc. S.A.&F.L.	53-19	19-15-18	5260	Completed
Riverdale	Amerada Pet. Corp., Brum	58-15	15,17-19	6840	Completing
	Amerada Pet. Corp., Young	4-15	15,17-19	7890	Drilling
	Amerada Pet. Corp, Courtney	4-23	23,17-19	6833	Swabbing
	Amerada Pet. Corp., Jensen	52-26	26-17-19	6840	Completed
	Amerada Pet. Corp., Leal	F-21-26	26,17-19		Rig
	Kern County				
Antelope Hills	Shell Oil Co., Inc., Williams	23-6	6,28-20	2709	Completing
South Belridge	E. A. Parkford, Well	5	12-29-21	1123	Completing
Comanche Point	L. E. Barat Synd., Ham Johns	1	5,11-18	1604	Idle
Dyer Creek	Fred Jasper, Jr., Well	1	16,26-27	3345	Drilling
	Bolsa Chica Oil Corp., Clark	1	36,25-26	1510	Drilling
Edison	M.T.M. Oil Co., Inc., Well	1	23,30-30	2100	Idle
Kern Front	Standard Oil Co., Well	42-9	9, 28-27	6211	Abandoned
McFarland	Tide Water Assoc. Oil Co. well	32-15	15,26-26		Bldg. Rig
McKittrick	Americal Pet. Inc., Americal	1	2, 30-21	5450	Redrilling
	MacVee Assoc., well	1	33,29-21		Location
McKittrick Front	Westates Pet. Corp., Kimball	4	32,29-22	1497	Drilling
Midway-NW.	C.C.M.O. Co., Well	24-1	1,32-22	3496	Drilling
Midway-SE.	The Texas Co., P.U.P.	2	33,11-23	5255	Drilling
Paloma	Gen. Pet. Corp., Benco	87-28	33,31-26		Location
Paloma	Gen. Pet. Corp., Gallagher	61-33	33,31-26	10,947	Sampling
	West'n. Gulf Oil Co., L.A.C.	36-1	1, 32-26		Foundation
Poso Creek	Dolley & Dugan, Sesnon	1	17, 28-27		Location
Shale Hills	Tideland Oil Co., Grant Est.	1	4, 27-28	4064	Idle
	Kings County				
Alpaugh	Elmer C. vonGlahn, Well	1	4,23-22	9015	Drilling
Hanford	Cont. Oil Co., Drummond	1	36,18-22		Rigging Up
Pyramid Hills	Pac. O. & G. Dev., West Slope	2	20, 24-18		Location
	San Luis Obispo County				
Midway, NW	C.C.M.O. Co., Thomas	1	1,31-21		Foundation
	Tulare County				
Pixley	Continental Oil Co., Reynolds	1	15,23-25	5842	Drilling
Tulare Lake	Shell Oil Co., Inc., Tulare	21-28	28,22-20		Location

Shell Oil Plans Tulare Lake "Cat"

Shell Oil Co., Inc., is reported planning to drill Tulare No. 21-28 as a wildcat in the northwest corner of sec. 28, 22s-20e of Tulare county. The site is located a few miles northeast of the Dudley Ridge gas field and a mile north of the Union-Hancock Oil Co. Giannini No. 1, which was abandoned at 5338 ft. in 1935 after finding barren Mya gas sands at 2300 ft.

Pure Oil Quits Mendota Wildcat

Pure Oil Co., which headed a syndicate of California operating oil companies in the try, has abandoned C.L.G. No. 1 on sec. 22,15s-13e in the Mendota area of Fresno county. The wildcat bottomed at 7000 ft. in gray sand of undisclosed age after entering the Domengine section of the Eocene at 5825 ft. No showings were encountered.

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Reducer Sizes	Peak Torque	Nominal Horsepower	Maximum Stroke	Polish Rod Load API.
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30 LFO	28,000	5.66	30"	8,000#
33 LFO	40,000	8.1	36"	10,000#
37 LFO	60,000	12.15	44"	10,000#

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WESTERN GEAR WORKS—Seattle, Washington

Edison Wildcat Standing Idle

M.T.M. Oil Co., Inc.'s wildcat well No. 1, near the west quarter corner of sec. 23, 30s-30e in the easterly Edison area, is standing suspended in gray sand at 2100 ft. No showings were reported to bottom.

Dyer Creek-Jasmine Operators Continue

In the northwest quarter of sec. 16, 26s-27e Fred Jasper, Jr.'s wildcat No. 1 is coring ahead at 3345 ft. without having reported showings while in sec. 36, 25s-18e Bolsa Chica Oil Corp.'s Clark No. 1 is drilling at 1510 ft. in search of Vedder zone production.

Pixley Test Cores Aread

Continental Oil Co.'s current Pixley area try, Reynolds No. 1, is continuously coring at 5842 ft. without releasing formation data. Located in sec. 15, 23s-25e, the well is scheduled to prospect to basement unless production is found at higher levels.

In the Hanford area, Continental is rigging up to drill Drummond No. 1 as a wildcat near the southwest corner of sec. 36, 18s-22e. Located two miles south of the Willow Springs School in Kings county, the well is located on here-to-fore untested lands.

Standard Trys Guijarral Area

Standard Oil Co. is drilling a deep test, Pleasant Valley No. 82-29F on sec. 29, 20s-16e in the Guijarral Hills section of Fresno county. Located just off the southeasterly tip of the Coalinga Eocene Pool, the well seeks production at depth comparable to that found in Coalinga field as well as that found in the Kettleman North Dome field a few miles to the southeast.

Immediately to the east, on sec. 28, 20s-16e, Robert S. Lytle, Operator, suspended well No. 68-28F at 11,586 ft. and is awaiting results of the Standard effort before again entering to test 20 ft. of poor oil sands encountered at the top of the Eocene at 9420 ft.

(Continued on Page 28)

Coastal District

Two Work at Cat Canyon

In the Cat Canyon outpost area two strings are at work. Deepest is the Standard Oil Co. South Basin-Lloyd Community No. 1 which is currently fishing bits from bottom at 5245 ft. after reportedly encountering heavy oil shows near bottom. Located in sec. 15,9n-33w the well is being watched with much interest by adjacent landholders.

On section 25 of the same township Bel-Air Oil Co.'s Williams No. 1 is drilling ahead after cementing surface pipe at 428 ft. and completing a service water well at 800 ft.

Los Olivos Well Fails to Produce

Tide Water Assoc. Oil Co.'s Davis No. 1, in sec. 33,8n-31w in the Los Olivos area of Santa Barbara county, proved disappointing when it failed to make commercial production from 5050 ft. With 9⅝ in. casing cemented at 4615 ft. and 4¾ in. liner containing 406 ft. of perforation landed at 5031 ft. the well pumped only a 37 bbl. rate cutting 70.0 percent water. The recovery was very heavy tarry oil and immediately pumped off. At last report the well was being circulated with hot oil in an effort to give the heavy oil every chance to come into the hole.

Standard Quits Orcutt Wildcat

Standard Oil Co.'s Rice Ranch No. 1, sec. 14,9n-34w of Santa Barbara county, is suspended at 9254 ft. in Miocene brown shale entered at 9230 ft. No showings were reported to bottom and the hole is standing plugged at 648 ft.

Ohio to Drill Butte Co. Test

Ohio Oil Co. is preparing to drill Willows-Black No. A-1 as a gas try on sec. 18, 20n-2e in the Willows area of Butte county.

Texaco Quits Ciervo "Cat"

The Texas Co. is abandoning Henderson No. 1 on sec. 33,16s-12e in the Ciervo area of San Benito county. Bottomed at 2249 ft. the well found all zones barren.

On section 13 of the township Union Oil Co.'s wildcat Friedman No. 1 is pulling the tester after repeated attempts to get the packer to hold at 2834 ft. The test was to try showings found from the packer point to bottom at 2890 ft. Longest interval held was one minute which produced a slight steady gas blow.

COASTAL COUNTIES WILDCATS

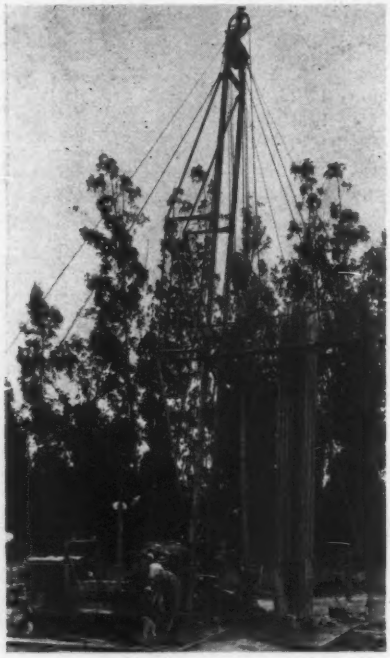
Area	Well	No.	Section	Depth	Status
	Santa Barbara County				
Careaga	Univ. Consol. Oil Co., Careaga	1	5, 8-33		Materials
Cat Canyon	Alphonzo E. Bell Corp., Gilmore	1	23, 9-33	6457	Idle
	Bel-Air Oil Co., Williams	1	25, 9-33	428	Drilling
	Standard Oil Co.	SBLC1	15-9-33	5245	Drilling
	Standard Oil Co., Los Flores	5	33, 9-33		Rig
Lompoc	Alphonzo E. Bell Corp.. Lompoc	6	28, 8-34		Grade
	Fickert Oil Co., Ltd., Well	1	8, 7-33		Rig
Los Olivos	Tide Water Assoc O. Co., Davis	1	33, 8-31	5050	Testing
Orcutt	Standard Oil Co., Rice Ranch	1	14, 9-34	9254	Suspended
	Ventura County				
Bardsdale	Hopland Oil Co., Well	1	1, 3-19	4634	Idle
	Lytle, Robt. S., Opr., Elkins	1	6, 3-19		Location
	Santa Marino Oil Co., Elkins	1	7, 3-19		Rig
	Ventura Southern Oil Co.	G-1	19, 3-19	5363	Idle
Conejo	Sycamore Oil Co., Boylan	1	23, 1-20	2747	Drilling
	L. A. Basin Oil Co., Well	1	4, 1-20	1521	Idle
Eureka Canyon	Phillips & Nichols, Well	2	33, 4-18	667	Testing
Ojai	Coates, Spencer D., Pirie	5	7,4-22	982	Cleaning Out
	Kelalee Pet. Co., Harvey	1	8, 4-21		Rig
Oxnard	Royalty Service Corp., Leonard	1	19, 2-22	6470	Drilling
Piru	Delroy Pet. Corp., Fisk C. H.	1	22, 5-18	2629	Bldg. Rig
	Pac. West. O. Co., Temescal	13	4, 4-18	3104	Completed
	Tide Water Assoc. Oil Co., Hidden	2	5,4-18		Location
Sespe	Merchants Pet. Corp., Cochran	1	4-20	1670	Drilling
Timber Canyon	Crude Oils., Inc., West	1	19, 4-20	958	Idle
	Henderson-Ortez Oil Co., O'Leary	1	29, 4-20		Rig
Torrey Canyon	Union Oil Co., Torrey	60	5, 3-18		Location

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Butte	Ohio Oil Co., Willows-Black	A-1	18, 20n-2e		Location
Colusa	Pacific National Pet. Corp.	1	17,17n-4w	1402	Idle
Contra Costa	Joseph Faria, Jr.	1	21-2n-1w		Rig—Idle
Humboldt	The Texas Co., Holmes-Eureka	2	22-3n-1w	2260	Drilling
Madera	Blake, T. E., Chuck	1	28, 10s-17e		Rig—Idle
	The Texas Co., Chowchilla	27-26	26,11s-14e	3500	Drilling
Monterey	Loma Grande Oil Co., Corey	1	23,24s-10e	4318	Stdg. squeezed
	Wm. C. Jensen, Vierra	1	7-13s-2e		Rig
San Benito	The Texas Co., Henderson	1	33,16s-12e	2249	Abandoning
	Union Oil Co., Friedman	1	13,16s-12e	2890	Drilling
San Joaquin	Standard Oil Co., Blewett Com.	3	23, 3s-6e		Rig
Solano	Standard Oil Co. Fontana Farms	1	23,3n-1w		Rigging Up
	Standard Oil Co., Suisun Com.	1-2	36, 4n-2w	3685	Drilling
	Standard Oil Co., Suisun Com.	2-1	25, 3n-1w	7300	Testing
Tehama	The Texas Co., Walbridge	1	32,28n-2w		Grading
Yolo	Tide Water Assoc. Oil Co., Woodland Comm	1-8	8,9n-1e	2661	Drilling

Universal Starts Careaga Area Try

Universal Consol. Oil Co. is moving in materials and equipment to drill Careaga No. 1 in sec. 5,8n-33w at the southeasterly flank of the Santa Maria old field on a portion of the Rancho Los Alamos. The well lies between the field and preceeding wildcats which carried below 7000 ft. without success.



Wilson Double Drum Slim Hole Drilling Rig.

WARTIME PROGRAM

Rental Service

WILSON POWER RIGS

Due to a need for conservation of materials in manufacture and fuel in operation, we are making these economically operated WILSON Power Rigs available to a larger number of companies for drilling essential and authorized wells, on a reasonable rental basis. We have "Titan" Model Rigs (12,000 ft.), a "Giant" Model Rig (6,000 ft.) and a Wilson "Slim Hole" Mast Rig, as illustrated (to 2500 ft.)

SERVICE AND PARTS OUT OF LONG BEACH

H & B SALES COMPANY

2875 Cherry Avenue Long Beach, Calif.
Phone Long Beach 416-59

Lytle To Drill Bardsdale Test

Robert S. Lytle, Operator is preparing to drill Elkins No. 1 as an Eocene age test 2140 ft. north and 1237 ft. west of the southeast corner of sec. 6,3n-19w in the Bardsdale area of Ventura county. On the adjacent section 7 San Marino Oil Co. is preparing to rig up Elkins No. 1 for immediate drilling.

Union Oil Spuds Cat Canyon Well

Union Oil Co. is under way with Bell No. 15 in the proved section of the Cat Canyon field. Located on sec. 35,9n-33w, the well was last reported at 1786 ft. after cementing 12¾ in. casing at 432 ft.

On section 1,8n-33w Pacific Western Oil Corp. suspended Los Alamos No. 18 without showings at 5609 ft. and is preparing to drill No. 19 approximately 2600 ft. north of the current suspension.

Piru Well Completed

Pacific Western Oil Corp. finished Temescal No. 13 on sec. 4,4n-18w of the Piru area, at 3610 ft. pumping at last report 105 bbls. of 19.5 gravity oil cutting 36.0 percent. The company is preparing to stake location for another hole on the acreage.

In the northwest quarter of sec. 22,5n-18w Delroy Pet. Corp. Fisk Core Hole No. 3 is rebuilding rig which collapsed while cleaning out to deepen from 2629 ft.

Operators Testing Eureka Canyon Well

L. H. Phillips & D. H. Nichols are testing water shut off on 4½ in. casing cemented at 620 ft. in their 667 ft. well No. 2 on sec. 33,4n-18w. The well is expected to make a good producer from about 25 ft. of sand cored below 614 ft. If this well is a success another hole will be put down at once.

Engineering, Technology, latest news—twice a month in California Oil World.

Two Strings Work So. Ventura Co.

Two strings are working in separate portion of southerly Ventura county. Deepest is Royalty Service Corp.s Leonard No. 1 on sec. 19,2n-22w in the Oxnard area which was last reported drilling in shale at 6470 ft. In the Conejo area Sycamore Oil Co.s Boland No. 1 is drilling ahead at 2747 ft. after recovering a drill pipe fish.

Lloyd Continues Ventura Ave. Work

Lloyd Corporation is continuing work at the north flank of the Ventura Avenue field by milling up liner to deepen L.C. No. 3 from 10,361 ft. after its No. 1 was finished at 11,406 ft. flowing 653 bbls. of clean 33.8 gravity oil and 506,000 cu. ft. of gas through a 48/64 in. bean.

In the westerly section of the field Shell Oil Co. Inc. completed another of its solid producers when Taylor No. 146 was finished at 8769 ft. and turned to the tanks on a settled flow of 1988 bbls. of clean 29.2 gravity oil and 543,000 cu. ft. of gas on open line. The company is drilling No. 147 at 6428 ft. and is standing with 7 in. cemented at 7950 ft. in the 8025 ft. Taylor No. 155 while rigging up for No. 156 and grading site for No. 157.

Certain Oil Activities Made Essential to War

The War Manpower Commission has approved certain occupations in petroleum, natural gas, and natural gasoline activities as essential to the support of the war effort. Occupational Bulletin No. 15, effective August 5, lists a number of "critical occupations" in the industry. Local draft boards have been furnished with copies of the list for their guidance. Copies of the bulletin and the list may be obtained from the California Oil and Gas Association.

THIS LAUGH

OFF!!

Frank Summers came across with this one:

The recruit, keeping guard, heard, through the darkness, the sound of an approaching horse.

"Halt! Who goes there?" he challenged.

"The commanding officer," came the reply.

"Dismount, sir, and advance to be recognized," called the guard.

The officer did so, then he asked, "By the way, who posted you here?"

"No one, sir," said the recruit, "I'm just practicing."

For more than an hour the witness had squirmed under the cold, hostile questioning of the opposing counsel.

"You say that you have crossed the Atlantic seven times?"

"Yes, sir."

"And where were you born?"

"Here in New York."

"Then, sir, if you were born in New York and have crossed the Atlantic seven times, how does it happen that you aren't on the other side at this moment? Answer me that!"

"Because, sir, on my last trip I came home by way of Siberia and the Pacific Ocean."

Sir Lancelot, lost one dark night in a deep woods, wandered about helplessly and after some hours encountered a handsome St. Bernard dog. The dog attached himself to Sir Lancelot, and they went on together for some time. Then the knight, exhausted, sat on the back of the magnificent animal. It dutifully took him straightaway to a tavern.

Sir Lancelot knocked at the door. "Could you give me bed and board?" he inquired of the proprietor. The tavern keeper peered out into the darkness.

"Who am I to turn out a knight on a dog like this?" he answered.

While this one was overheard by **Foy Schlitler:**

The painters had been working for three days redecorating Mrs. Uppington's kitchen and downstairs hall and everything was looking lovely until Mr. Uppington came home and pushed open the hall door leaving a bunch of fingerprints. Early the next morning Mrs. Uppie calls the painters in a huff: "Can one of you boys come back out here. I want to show you where my husband put his hand last night."

A squeaky voice replied: "Mrs. Uppington, I'm hardly in shape for that sort of thing, but I will split a short beer with you."

This one was picked up by **Elmer Smith:**

First Aviator: "Quick; what do I do now, instructor?"

Second Aviator: "Goodness. Aren't you the instructor?"

The doctor met Mrs. Smith in the street.

"And how is your husband sleeping now, Mrs. Smith?" he asked. "Did yo ugive him the sleeping powders as I directed?"

"Yes, sir," she replied. "You told me to give him the amount I could get on a nickel, but as I hadn't any silver I used five pennies and he's been asleep for five days now!"

"You know, my little boy is the dead image of me."

"What the hell d oyou care as long as he is healthy."

Constable (to gentleman staggering home at 3 a. m.): "Where are you going at this time of night?"

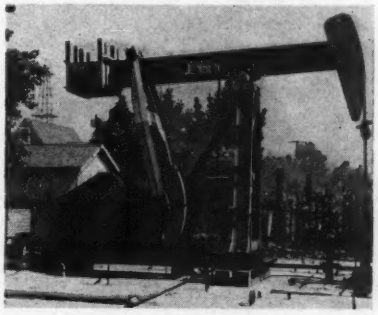
Inebriate: "To a lecture."

Bride: "And what will you do for me if I always cook your meals just like this one?"

Hubby: "Take out some more life insurance."

Names used on this page are entirely fictitious, and any resemblance to persons either living or dead is purely coincidental.

14-DC JENSEN UNIT, doing a job with war-time efficiency for the Petroleum Management Corporation, Wilmington, California. Powered by 10 h.p. motor. 3000' of ¾" rods. 1½" pump. Fourteen 48" strokes per minute.



Production Question

What pumping unit will give you —on your wells under present conditions—the most satisfaction?

You can't answer that question without the facts about JENSEN JACKS. We are the oldest and largest exclusive manufacturer in the business.

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JENSEN
BROTHERS MFG. CO.
Coffeyville, Kansas, U.S.A.

EXPORT OFFICE: 50 Church St., New York City

Special Nordstrom Hypreseal Tree Valve

A special Nordstrom Hypreseal Valve with unequal flanges and two side outlets for cross connection is made of alloy steel, with round opening, for 3000 lbs. (W.O.G.) working pressure: 6000 lbs. test. Worm gear operated. The flange sizes are 3x8x3⅛x2x2; end flanges are 900 Series and side outlet flanges are 1500 Series.

This type of casting was originated by Merco Nordstrom Valve Co. to effect a more compact and more economical Christmas Tree by the elimination of two flange joints. The large bottom flange bolts directly onto the tubing

Cross Type
Christmas Tree Valve

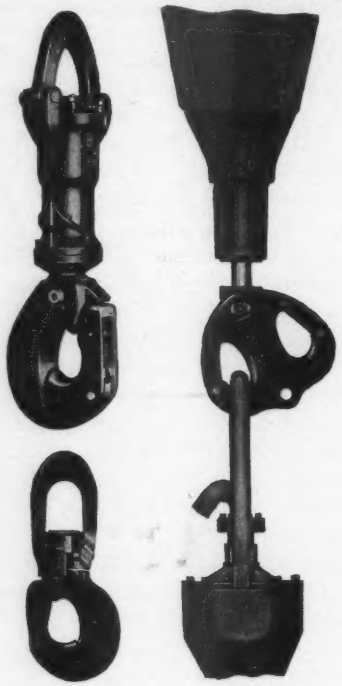
head, thus eliminating the unequal-flanged spool formerly used, doing away with one joint. The integral cross does away with the standard four-way cross fitting and effects the elimination of one joint—that between a standard valve and the conventional cross. Similar valves are also cast with but one outlet. The latter are designated Tee Type Valves to disitnguish them from the Cross Type Valve shown in the illustration. Any combination of flange series can be supplied.

New Combination Tubing Hooks

A completely new line of hooks—designed exclusively for the purpose of handling tubing—consists of BJ "75"—"50"—and "30" Tubing Hooks, each number designating the rated capacity of the hook, with a safety factor of four based upon the ultimate strength of the material.

Both the 50-ton and 75-ton hooks are of the "Combination" design described below. The 30-ton hook is made with a SINGLE hook body only and is furnished with a swivel lock. It is not equipped with relief springs, a heavy duty ball bearing being sufficient to carry the loads imposed upon it.

In both of the larger hooks, by removing only the shank pin, the body can be changed readily from the SINGLE hook type to the DUPLEX (2-hook) type. BJ Weldless Links are thus permitted to hang vertically so that the ele-



vator is easily opened or closed, and a uniform load distribution is secured. The two larger hooks are equipped with an enclosed, low-stressed relief spring, having a 5-inch travel, which is strong enough to lift a stand of tubing clear of the collar, thus preventing damage to threads and speeding up operations.

For work-over or perforation cleaning jobs either side of the DUPLEX hook body can be used to pick up the swivel, and the full rated capacity of the hook is present when used for such purposes. This method is not recommended for continuous drilling operations due to the lost time in operating the locking arms. A straight pull is provided (as illustrated) and the swivel bail is securely locked in safe against accidental "jumping" of the hook, with a heavy, overhanging metal section to take any upward thrust of the swivel bail.

A swivel lock to prevent rotation, and an adapter for direct connection to the block are additional features when specified. All three sizes of these new hooks are shorter in over-all length than the corresponding sizes of previous types—an important feature where overhead clearance is limited in short derricks.

Address Byron Jackson Co., Los Angeles, Houston or New York City for all details and prices.

Tide Water Associated Holds Dealer Meetings

A series of Dealer sales meetings recently held in key cities up and down the Pacific Coast served to successfully introduce an entire new line of automobile batteries marketed exclusively by Tide Water Associated Oil Co. According to Marshall S. Pease, manager of tires, batteries and accessories for the company, the "Aero" brand battery program presented to Associated dealers was one of the most complete sales presentations ever launched by the company in its western marketing territory. A liberal guarantee and adjustment policy was revealed.

Meetings to which leading dealers were invited to hear the complete sales story of Aero batteries were held in Los Angeles, Fresno, Bakersfield, San Jose, San Francisco, Oakland, Stockton, Chico, Portland and Seattle. In each city, M. S. Pease, together with a manufacturer's representative, the Associated District Sales Manager, Service Station Supervisor, and the district tire and battery salesmen unfolded the colorful story of the new Aero battery line. For the first time in history dealers were offered a battery brand with the Tide Water Associated Oil Company name.

"Dealer acceptance was spontaneous and enthusiastic in every meeting" Pease declared. "Operators of service stations, faced with decreasing sources of revenue, were frank in declaring that the Aero battery line offered every possible sales advantage, that the price was right and quality assured since the battery carried the Tide Water Associated Oil Company name and guarantee" he added.

The Aero battery line offers complete coverage for all makes of automobiles with nine sizes of batteries and duplications existing in only three sizes.

Initial sales to dealers on the Pacific Coast during the fifteen day period in which meetings were held to introduce the line to the field reached 25 percent of the sales volume of the company's biggest year's sales of batteries, Pease announced.

The largest single plant in the War Production Drive is the Newport News Shipbuilding and Drydock Co., employing 27,000 men; the smallest is the Armstrong Manufacturing Co. plant at Portland, Ore., which employs 19.

If you find electric fans are scarce this summer, consider that the copper from a dozen fans is enough to provide all the copper needed in fabricating a 20 mm aircraft cannon to make it hot for the Japs and Nazis.

Engineering, Technology, latest news—twice a month in California Oil World.

"Chemical Refining Of Petroleum"

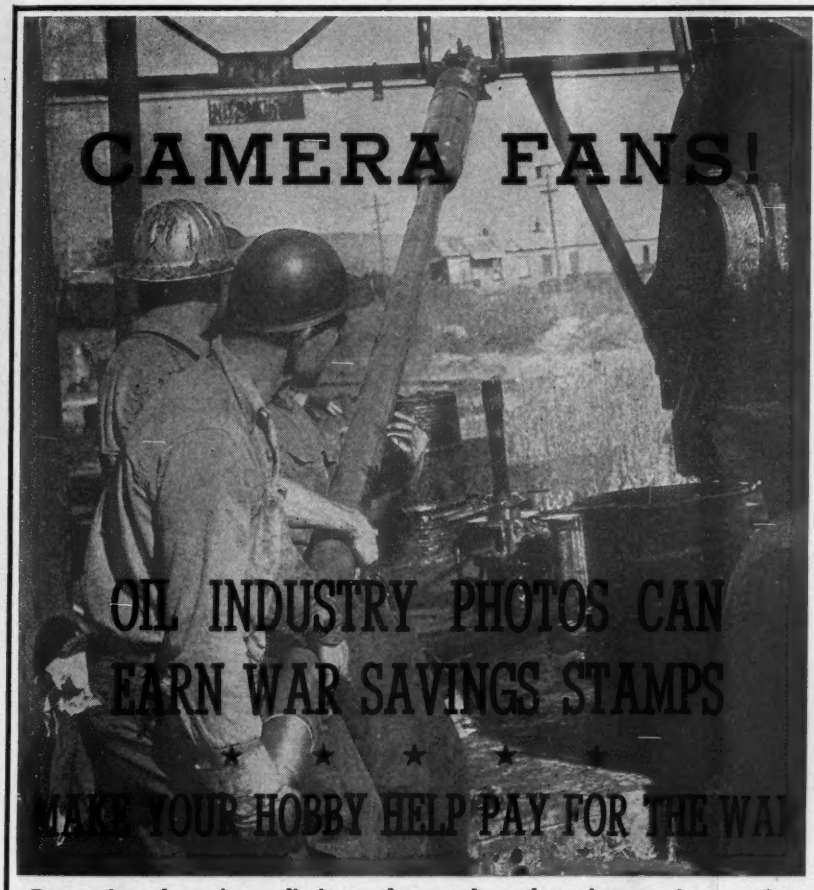
Sponsored by the American Chemical Society, a new and revised edition of "Chemical Refining of Petroleum" has just been published. First issued seven years ago, in the new edition the book has been completely revised and much of it entirely rewritten to include investigations and processes developed in the intervening period. The book is one of a series of monographs sponsored by the American Chemical Society with two purposes in mind: the first, to present the knowledge available upon the chosen topic in a form intelligible to those whose activities may be along a wholly different line; and second, to promote research in the branch of science covered by the monograph, by furnishing a well digested survey of the progress already made and by pointing out directions in which investigation needs to be extended.

Contents of the volume are indicated by chapter headings, as follows: Chapter 1, Composition of Petroleum; Chapter 2, Treatment with Sulfuric Acid; Chapter 3, Sulfuric Acid Sludge and Hydrogen Sulfide; Recovery and Manufacture of Sulfuric Acid; Chapter 4, Treatment with Alkaline Reagents; Chapter 5, Sweetening Operations, Elimination of Elemental Sulfur, and Reduction of Total Sulfur in Light Distillates; Chapter 6, Refining by Absorption; Chapter 7, Refining with Solvents; Chapter 8, Detonation and Antidetonants; Chapter 9, Inhibitors of Atmospheric Oxidation of Petroleum Products. Antioxydants; Chapter 10, Gums and Cracked Petroleum Products; Chapter 11, Deterioration of Lubricating and Similar Oils. Addition Agents. A valuable feature of the book is a supplementary list of United States patents on petroleum refining. There is an appendix containing special tables, a patent index, an author index, and a subject index.

Authors of the book are Vladimir A. Kalichevsky, of the research and development laboratories of Socony-Vacuum Oil Co., Inc., and Bert Allen Stagner, consulting and research chemist, formerly supervisor of chemical research for Union Oil Company of California and a research fellow of the Mellon Institute of Industrial Research.

"Chemical Refining of Petroleum," by Vladimir A. Kalichevsky and Bert Allen Stagner. Clothbound, 550 pages, illustrated. Published by Reinhold Publishing Company, 330 West 42nd Street, New York, N. Y. Price $7.50.

Waste paper provides one third of the materials needed to make new paper.



To stimulate the War Bond and Stamp Savings campaign, CALIFORNIA OIL WORLD offers Oil Industry camera fans an opportunity to swell their investment in America through the pictures which they have always taken for fun. FOR ANY ACCEPTABLE OIL INDUSTRY PHOTO WE WILL PAY $2.50 IN WAR SAVINGS STAMPS.

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TO collect $2.50, or SEVERAL TIMES this sum, in War Savings Stamps you need observe only the limited rules outlined below.

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1. Submit good photographic print or negative (negatives will be returned) of any shot showing oilfield, refining, natural gasoline, pipeline or oil administrative activity in any CALIFORNIA area.

2. Submit group photographs of oilfield drilling crews, pipeline crews, refinery staff groups, important meetings or individual photographs possessing current news value.

3. Photographs must be of recent date and properly identified as to time, event and place, and contain the names of identifiable persons in the shot.

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Remember there is no limit on the number of entries; send every shot which you consider worthy of publication. Editorial credit will be given successful entries, so pack your shots with drama—activity—composition—news—interest. Fill an album with War Savings Stamps by sending your photographic efforts to—

PHOTO EDITOR

CALIFORNIA OIL WORLD

SUITE 1009 — 939 SO. BROADWAY — LOS ANGELES, CALIFORNIA

Los Angeles Basin

(Continued from Page 19)

Wonder To Drill San Jacinto Try

Wonder Oil Co. is building rig for Stroh No. 1 in the San Jacinto area of Riverside county. To be drilled under contract, the well is understood to be scheduled to be carried to considerable depth. The test is located 1033 ft. north and 688 ft. west of the southeast corner of Lot 4 of fractional sec. 30, 4s-1e.

Work Starts On San Berdu Well

In the Carbon Canyon area of San Bernardino county, Municipal Oil Co. is cleaning out to redrill and deepen the old Mahala Oil & Gas Co. No. 1. Located on sec. 13, 3s-8w, the well was originally bottomed at 4010 ft. in October, 1921, where it pumped off after making 70 bbls. of 18.2 gravity oil cutting 12.0%. Deepened to 4217 ft. the well made an open hole pumped recovery of 36 bbls. daily on intermittant trial. Plugged and redrilled to the original depth, the well accomplished occasional production of 25.5 gravity oil cutting 5.0% at a 50 bbl. rate and has been suspended for several years.

On section 5, 3s-8w the E. F. Stella Estate is continuing McDermont No. 2 in gray sand and shale at 391 ft.

San Joaquin Valley

(Continued from Page 22)

Richfield Starts Kerman Area Try

Richfield Oil Corp. spudded Burns No. 1 near the east quarter of sec. 30, 13s-17e in the Kerman area of Fresno county. Last reported drilling near 3300 ft. the try seeks production suggested by showings found in other wells along the general structural trend in this portion of the county.

Shell Finishes Round Mt. Well

Shell Oil Co., Inc., finished Caldwell No. 21 on sec. 7, 28s-29e at 1757 ft., pumping 170 bbls. daily clean oil from 40 ft. of Vedder oil sand. On section 20 of the township the company is preparing to finish Freeman No. 22 after entering Jewett oil sand at 1345 ft.

Trico Oil & Gas Co. missed Vedder zone production on sec. 10, 28s-29e when Coffee No. 10 entered barren Vedder sands at 1645 ft. and was put on the hook at 1736 ft. without finding oil saturation.

C. C. M. O. Starts Mt. Poso Program

Chanslor Canfield Midway Oil Co. started a program to drill Mon No.'s 6, 7, 8 and 9 on sec. 26, 27s-28e in the Mount Poso field by spudding No. 8 under contract to the Fowler Drilling Co. Last reported at 630 ft., the well will finish in the upper Vedder of the Dorsey area.

Oil Industry Protection Committee Completes Staff

Coordination and consolidation of anti-sabotage and protective work of the Oil Industry Protection Committee with the Facility Security Division of the Office of Petroleum Coordinator has been completed with the affiliation of two members of the committee with the coordinator's office, according to A. C. Rubel, Chairman of the Oil Industry Protection Committee and Vice-President of the Union Oil Company.

"A. A. Jergins, Vice-Chairman of the Oil Industry Protection Committee, has been appointed Director at Large of the Division, and Geo. F. Prussing, Executive-Secretary of the Oil Industry Protection Committee, has been appointed Director of the Fifth District, comprising the Western States. These two men will continue their affiliation with the Oil Industry Protection Committee as well, thereby insuring complete coordination of all protective activities within the industry," Mr. Rubel said.

Duty of the Facility Security Division of the Office of Petroleum Coordinator is to insure protection of all oil industry facilities not specifically assigned to the Army. It is also aligned with the Office of Civilian Defense, whose broad responsibility is to insure proper precautions and protection for all facilities, both industrial and civilian, not specifically assigned to the Army.

Director of the OPC Facility Security Division is W. D. Mason, who was with Standard Oil Company of California for twenty-two years prior to joining the Sun Oil Company, from which company he is now on leave.

The Oil Industry Protection Committee, organized last December by the California Oil Industry to coordinate all protective activities of the industry on the Pacific Coast, will continue to function, Mr. Prussing remaining as a member and as Executive-Secretary. The committee has arranged for guarding of oil field and refinery installations, coordination with the Office of Civilian Defense, with sheriffs and police, with fire departments, and has supervised the organization and preparation of district and field committees for the protection of individual areas. It has also acted as liaison agent between the oil industry and the Army and Navy.

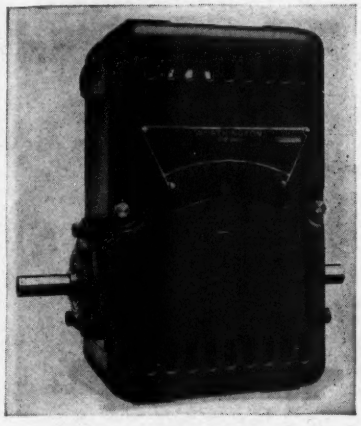
BUY

DEFENSE

BONDS

An Entirely New Variable Speed Drive

A new variable speed multiple V-belt-drive is announced by the Worthington Pump and Machinery Corporation. The manufacturer of this unit calls it the "ALLSPEED DRIVE." The first of these to be made available is the model A which has a horsepower range of from one-third to three-quarters horsepower with a speed ratio of 16 to 1, that is, any speed from 1/8 to twice the driving motor speed. This drive is said to be exceptionally compact, ball-bearing equipped, and so designed that it can be operated in any plane. Further, it can be directly coupled to any standard motor and the output shaft can be run at motor speed, and is flexible enough to be applied to any type of machine within its power range.



An interesting feature of this drive is its mechanical, positive belt-tensioning device which automatically compensates for increased arc of belt contact which results from changing from low to high speeds. In this tensioning device no springs are required. A further feature is the fact that the drive need not be dismantle to change belts. According to the manufacturer other sizes are now being developed for 1 to 3 HP, 3 to 5 HP, 5 to 7¼ HP, and 7½ to 10 HP.

While these drive units were originally intended for application to machine tools, they are already being successfully used on numerous other types of equipment.

For every ten 30-foot cruisers that aren't being built this year our Navy can have another mosquito boat.

The wood in one average civilian house would make two defense homes for war workers and their families.

Grease that leaves no telltale oil film on the water's surface is used to lubricate fins on submarines.

Kerotest Receives Maritime Award

The first Pittsburgh district production award by the U. S. Maritime Commission was presented to the Kerotest Manufacturing Company, valve manufacturers, of this city, Saturday, August 29. Ceremonies were held in the company's newly completed building, and were broadcast over radio station KDKA.

Making the presentation of the award was C. E. Walsh, Jr., chief of the commission's Procurement Division. The Maritime "M" Pennant and Victory Fleet Flag were accepted on behalf of Kerotest employees by E. G. Mueller, Kerotest president. John Walters, chairman of the Employees Maritime Day Committee, accepted the Larbor Merit Pins, given to all employees.

Following the presentation and acceptance speeches, Walter G. Swaney, general manager of the company, pledged that both labor and management would regard the awards as a spur toward greater production achievements. Acting as master of ceremonies was Ford Bond, ace NBC announcer from New York City.

Speed-Up in Making Bomb Shells Will Affect Oil-Well Casing

Oil wells of the future may get their casing pipe more quickly because the United Nations' bombers had to have tens of thousands of bombs in a hurry.

A carbon-molybdenum seamless steel pipe has been widely used for 20 years in the casing of deep oil wells. To keep steel "flakes" from forming in the center of the steel, this pipe steel has always been cooled very slowly.

Now this same alloy, produced in the same tubular shape, forms the casings of bombs. But bombs are needed yesterday, and one steel company has developed a method of much faster cooling. The solid steel blocks still retain the "flakes," but when the finished tubes are produced, no flakes or internal flaws are present. Because of this radical experimentation, some day the steel industry may be able to make substantial improvements in the technique of manufacturing pipe for oil-well casings.

BJ Offers a New 300-Ton Elevator

To meet the increasing demand for an elevator to handle the longest, heaviest strings of 90 degree shoulder-type drill pipe, there is now available the BJ Type AA Elevator having a rated capacity of 300 tons, with a safety factor of four based upon the ultimate strength of the material.

The entire body of this new elevator is heat treated to withstand the terrific pounding effect of tool joints contacted at high speed when modern heavy duty equipment is used.

All the basic features of the popular BJ Center Latch Elevators are present in this 300-ton model: the body is constructed in two halves of practically the same weight for proper balance and ease in opening or closing; the narrow width under the elevator trunnions permit the "Perfection Bend" on BJ Weldless Links to direct the lift under the tool joint or collar and minimize bending stresses; the long operating handles provide a man-size grip, with guards to keep the hands of the operator away from danger; curved link blocks allow greater freedom of the elevator links when operating the elevator, and these blocks are securely bolted to retain the links safely.

A successful, new latch lock holds the Type AA Elevator latch closed and locked against accidental opening due to impact in the horizontal plane. Other details are available from Byron Jackson Co., Houston, Los Angeles, or New York.

Since the war began nearly 100 new chemical and powder plants have been built.

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BONDS

Lipstick containers, rouge boxes and miscellaneous brass bottle caps used up 2,800 tons of brass in 1941, or 2,250 tons of copper and 550 tons of zinc.

How the beauty parlor goes to war: The iron that used to go into a single hair dryer is enough for six hand grenades.

FOR SALE

No. 2500 Southwestern casing head plant. Complete unit 80 horsepower Bessemer compressor. J. Hokom Co., Phone HOllywood 3931. tf

DEPARTMENT OF THE INTERIOR, U. S. Land Office, Sacramento, California.—Notice is hereby given that a lease of the oil and gas deposits in the following described lands is offered to the responsible qualified bidder of the highest bonus per acre, pursuant to the provisions of section 17 of the act of February 25, 1920 (41 Stat. 437), as amended, at the royalty rate scale in the lease form shown in General Land Office Circular 1386, at a sale to be held in the office of the Register of the District Land Office in Sacramento, California, at 10 o'clock A.M., on September 10, 1942, E½ SE¼ Sec. 2, T. 21 S., R. 14 E., M.D.M. California, containing 80 acres in the Coalinga West Side oil and gas field. The successful bidder must deposit on the date of the sale a certified check on a solvent bank, or cash, for 1/5 of the amount of each bid, and file a showing of qualifications to receive the lease required by section 7 of Circular 1386. The remaining 4/5, together with the annual rental in advance at the rate of $1 per acre, must be paid and a $5,000 corporate surety bond must be furnished prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the U. S. Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register. 9/5h

FOR SALE CHEAP

No. 5 Rotary Drilling Rig with 2500 ft. 4½" screw drill pipe. ther Equipment. Inquire P. O. Box 82, Eureka, Calif. 9/20h

FOR SALE

Drawworks and Rotary Tables at bargain. 1412 Warnall Avenue, Los Angeles. 9/5b

Gotkool
WATER CANS
& COOLERS
GOTT Water Cans are the practical way to keep drinking water cool for long periods, protected from impurities and always handy to the job. Snug fitting large removable top, strongly built to withstand rough usage. GOTT Water Coolers have extra large covers and a handy non-leaking push button faucet. Your Supply Store has them, get one today!
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